

CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS

**2016 Pavement Maintenance
Program**



Built On What Matters

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SECTION 00020

INVITATION TO BID

SECTION 00020

INVITATION TO BID

Sealed Bids will be received by the Town of Frederick, Colorado (hereinafter referred to as the Owner), at 401 Locust Street, Frederick, Co 80530 until 2:00 pm local time, on April 29th, 2016 for the *2016 Pavement Maintenance Program*.

At said place and time, and promptly thereafter, all Bids that have been duly received will be publicly opened and read aloud.

The Agreement provides for the construction of the *2016 Pavement Maintenance Program* improvements (hereinafter referred to as the Work).

All Bids must be in accordance with the Contract Documents on file with the Town of Frederick.

Copies of the Contract Documents, complete with Drawings and Specifications, may be obtained from Rocky Mountain E-Purchasing (<https://www.rockymountainbidsystem.com/default.asp>) after 12:00 p.m. on April 15th, 2016, 2016.

The Contract Documents may be examined after April 18th, 2016 at Frederick Town Hall, 401 Locust Street, Frederick, Co 80530.

Prospective Bidders are invited to present their questions relative to their Bid to the Engineer.

A Non-Mandatory Pre-Bid conference will be held at the Town Hall, April 21th, 2016.

Bids will be received on a price basis as set forth in the Bid Proposal.

The Work is expected to be commenced within ten (10) days after the Notice to Proceed. Completion of the Work is required as specified in the Agreement.

Bid Security in the amount of five (5) percent of the total Bid Price must accompany each Bid in the form specified in the Instructions to Bidders.

Within five (5) days of the date of the Notice of Award, the successful Bidder will be required to furnish Performance Bond and a Payment Bond in the amount of one hundred (100) percent of the Contract Amount, guaranteeing faithful performance and the payment of all bills and obligations arising from the performance of the Agreement.

No Bid may be withdrawn within a period of sixty (60) days after the date fixed for opening Bids.

The Owner reserves the right to reject any and all bids or to accept that bid or combination of bids, if any, which in its sole and absolute judgment will under all circumstances best serve the Owner's interest. No Bid will be accepted from any firm, person, or corporation, who is a defaulter as to surety or otherwise, or is deemed incompetent, irresponsible, or unreliable by the Owner.

No Bids will be considered which are received after the time indicated, and any Bids so received after said time shall be returned to the Bidder unopened.

SECTION 00100

INSTRUCTIONS TO BIDDERS

SECTION 00100

INSTRUCTIONS TO BIDDERS

1.0 COPIES OF CONTRACT DOCUMENTS.

1.1 Complete sets of Contract Documents may be obtained as stated in the Invitation to Bid. No partial sets will be issued. The Contract Documents may be examined at the locations identified in the Invitation to Bid.

1.2 Complete sets of Contract Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

1.3 The submitted proposal shall include Sections 00300, 00410, 00420, 00430, 00450 and 00480 fully executed.

1.4 Owner and Engineer, in making copies of Contract Documents available on the above terms, do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

2.0 QUALIFICATION OF BIDDERS.

2.1 To demonstrate qualifications to perform the Work, each Bidder must prepare and submit a written statement of qualifications including financial data, a summary of previous experience, previous commitments and evidence of authority to conduct business in the jurisdiction where the Work is located. Each bid must contain evidence of Bidder's qualification to do business in the state where the Work is located or covenant to obtain such qualification prior to award of the Agreement. The Statement of Qualifications shall be prepared on the form provided by the Engineer.

2.2 In determining the Bidder's qualifications, the following factors will be considered: Work previously completed by the Bidder and whether the Bidder (a) maintains a permanent place of business, (b) has adequate plant and equipment to do the Work properly and expeditiously, (c) has the financial resources to meet all obligations incident to the Work, and (d) has appropriate technical experience.

2.3 Each Bidder may be required to show that he has handled former work so that no just claims are pending against such work. No Bid will be accepted from a Bidder who is engaged in any other work which would impair his ability to perform or finance this Work.

3.0 EXAMINATION OF CONTRACT DOCUMENTS AND SITE OF THE WORK.

3.1 It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract Documents.

3.2 Information and data reflected in the Contract Documents with respect to Underground Facilities at or contiguous to the site of the work is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner and Engineer do not assume responsibility for the accuracy or completeness thereof.

3.3. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Facilities and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.1. and 4.2. of the General Conditions.

3.4. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface and Underground Facilities) at or contiguous to the site of the Work or otherwise which may affect cost, progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

3.5. On request in advance, Owner or Engineer will assist each Bidder in obtaining access to the site to conduct such explorations and tests as Bidder deems necessary for submission of a Bid. Bidder shall restore the site upon completion of such explorations and tests.

3.6. The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor.

3.7. The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 3, that without exception the Bid is premised upon performing and furnishing the Work required by the Contract Documents and such means, methods, techniques, sequences or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

4.0 INTERPRETATIONS AND ADDENDA.

4.1. All questions about the meaning or intent of the Contract Documents are to be submitted in writing. Interpretation or clarifications considered necessary in response to such questions will be issued only by Addenda. Questions received less than six days prior to the date for opening of the Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

4.2. Questions should be directed as indicated in paragraph 3.0.

4.3. Addenda may also be issued to modify the Contract Documents as deemed advisable by Owner or Engineer.

4.4. Addenda will be mailed or delivered to all parties recorded by Engineer as having received the Contract Documents. No addenda will be issued later than four days prior to the date for receipt of Bids or withdrawing the request for Bids.

5.0 BID SECURITY.

Each Bid must be accompanied by Bid security in the amount stated in the Invitation to Bid. The required security must be in the form of a certified or bank cashier's check payable to Owner or a Bid Bond on the form enclosed herewith. The Bid Bond must be executed by a surety meeting the requirements of Paragraph 5.8 of the General Conditions for surety bonds. The Bid security of all Bidders will be retained until the successful Bidder has executed the Agreement and furnished the required security.

6.0 CONTRACT TIME.

The number of days within which, or the date by which the Work is to be completed and ready for final

payment (the Contract Time) are set forth in the Agreement.

7.0 LIQUIDATED DAMAGES.

Provisions for liquidated damages are set forth in the Agreement.

8.0 BID FORM.

8.1. The bid shall be submitted on the proposal form as provided. If the proposal form is bound in a book forming the Contract Documents for subject Work, the proposal shall not be removed and the entire book shall be submitted with the Bidder's Proposal.

8.2. Bid Forms must be completed in ink or typed. All lump sum prices on the form must be stated in words and numerals; in case of a conflict, words will take precedence.

8.3. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other appropriate officer accompanied by evidence of authority to sign) and the corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the corporate name.

8.4. Bids by partnerships must be executed in the partnership name and signed by a partner, his title must appear under his signature and the official address of the partnership must be shown below the signature.

8.5. Bids by joint venture shall be signed by each participant in the joint venture or by an authorized agent of each participant. The full name of each person or company interested in the Bid shall be listed on the Bid Form.

8.6. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

8.7. No alterations in Bids, or in the printed forms therefore, by erasures, interpolations, or otherwise will be acceptable unless each such alteration is signed or initialed by the Bidder; if initialed, Owner may require the Bidder to identify any alteration so initialed.

8.8. The address and telephone number for communications regarding the Bid shall be shown.

9.0 BID PRICING.

Bids must be priced as set forth in the Bid Schedule.

10.0 SUBMISSION OF BIDS.

10.1. Bids shall be submitted at the time and place indicated in the Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the title of the Work, and name and address of the Bidder and accompanied by the Bid security in the form specified in Section 5.0 of the instructions, and Non-collusion Affidavit. If the Bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.

10.2. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids indicated in the Invitation to Bid, or any extension thereof made by Addendum. Bids received after the time and date for receipt of Bids will be returned unopened. Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

10.3. Oral, telephonic, or telegraphic Bids are invalid and will not receive consideration.

10.4. No Bidder may submit more than one Bid. Multiple Bids under different names will not be accepted from one firm or association.

11.0 MODIFICATION AND WITHDRAWAL OF BIDS.

11.1. Bids may be modified or withdrawn by an appropriate document duly executed (in a manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

11.2. Bids may also be modified or withdrawn in person by the Bidder or an authorized representative provided he can prove his identity and authority.

11.3. Withdrawn Bids may be resubmitted up to the time designated for the receipt of Bids provided that they are then fully in conformance with these Instructions to Bidders.

12.0 OPENING OF BIDS.

Bids will be opened and (unless obviously non-responsive) read aloud publicly as indicated in the Invitation to Bid. An abstract of the amounts of the base Bids and major alternates (if any) will be made available after the opening of Bids.

13.0 BIDS TO REMAIN OPEN SUBJECT TO ACCEPTANCE.

All Bids shall remain open for sixty (60) days after the day of the Bid opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

14.0 AWARD OF AGREEMENT.

14.1. Owner reserves the right to reject any and all Bids, to waive any and all informalities, to negotiate Agreement terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive, unbalanced or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Work to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

14.2. Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations is submitted as requested by Owner. Owner also may consider the operating costs, maintenance requirements, performance data and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.

14.3. Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidder's proposed Subcontractors and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

14.4. If the Agreement is to be awarded, it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interest of the Work.

14.5. If the Agreement is to be awarded, Owner will give the Successful Bidder a Notice of Award within fourteen (14) days after the date of the Bid opening.

15.0 CONTRACT SECURITY.

Paragraph 5.8 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance and other Bonds. When the Successful Bidder delivers the executed Agreement to the Owner, it shall be accompanied by the required Securities.

16.0 SIGNING OF AGREEMENT.

When Owner gives a Notice of Award to the Successful Bidder, within five (5) days thereafter, Contractor shall deliver to Owner five sets of the required Security Bonds and Insurance forms. Within ten days thereafter, Owner shall deliver two fully signed sets of Contract Documents to the Contractor.

No Agreement is binding upon the Owner until it has been executed by the Owner and delivered to the Contractor.

17.0 TAXES.

Owner is exempt from Colorado State Sales and Use Taxes on materials and equipment to be incorporated in the Work. Said taxes shall not be included in the Contract Amount.

SECTION 00300

BID PROPOSAL

SECTION 00300

BID PROPOSAL

Project: 2016 Pavement Maintenance Program
Place: FREDERICK, COLORADO
Date: _____

1. In compliance with your REQUEST FOR PROPOSALS dated _____, and subject to all conditions thereof, the undersigned _____, a Corporation incorporated in the State of _____, hereby proposes to furnish and do everything required by the Contract Documents to which this refers at the lump sum or unit prices shown for each bid item on the following Bid Schedule. (The Bid Schedule lists the various divisions of construction contemplated in the Contract Documents, together with an estimate of the units of each for unit price items. With these units as the basis for unit cost items, the bidder will extend each item, using the cost he inserts in the unit column. Any total cost found inconsistent with the unit cost when the bids are examined will be deemed in error and corrected to agree with the unit cost which shall be considered correct.)
2. The undersigned bidder does hereby declare and stipulate that this proposal is made in good faith, without collusion or connection with any other person or persons bidding for the same Work, and that it is made in pursuance of and subject to all the terms and conditions of the Invitation to Bid and Instructions to Bidders, the Agreement, the Contract Drawings, and the Specifications pertaining to the Work to be done, all of which have been examined by the undersigned.
3. The undersigned has examined the location of the proposed Work, the Drawings, Specifications, and other Contract Documents and is familiar with the local conditions at the place where the Work is to be performed.
4. The undersigned bidder agrees to execute the Agreement and a Performance Bond and a Payment Bond for the amount of the total of this Bid within five (5) calendar days from the date when the written Notice of the Award of the Agreement is delivered to him at the address given on this Bid. The name and address of the corporate surety with which the Bidder proposes to furnish the specified Performance and Payment Bonds is as follows: _____

5. The undersigned Bidder agrees to abide by the requirements of Executive Order No. 11246, as amended.
6. All the various phases of Work enumerated in the Contract Documents with their individual jobs and overhead, whether specifically mentioned, included by implication or appurtenant thereto, are to be performed by the Contractor under one of the items listed in the Bid Schedule, irrespective of whether it is named in said list.
7. Payment for Work performed will be in accordance with the Bid Schedule subject to changes as provided in the Contract Documents.
8. The undersigned Bidder hereby acknowledges Addenda No. ____ through ____.

Town of Frederick, Colorado
2016 PAVEMENT MAINTENANCE PROGRAM

BID SCHEDULE					
Item		Unit	Quantity	Cost	Extension
<i>Site Work</i>					
1	MOBILIZATION	LS	1		
2	TRAFFIC CONTROL MANAGEMENT	LS	1		
3	REMOVAL OF ASPHALT MAT	SY	5327		
4	CRACK SEALING - MASTIC	TON	14		
5	HBP (PATCHING) (GR SX) (3.5")	SY	2845		
6	HBP (PATCHING) (GR SX) (6")	SY	2319		
7	HBP (PATCHING) (GR SX) (VARIABLE DEPTH)	SY	163		
8	CHIP SEAL (3/8")	SY	36784		
9	1.5" Mill and Overlay (HBP)(GR SX)	SY	2604		
10	STRIPING	GAL	528		
Total Project Cost:					

Total Project Cost in Words _____

PRICES

The foregoing prices shall include all labor, materials, equipment, transportation, shoring, removal, dewatering, overhead, profit, insurance, permits, taxes, etc., to cover the completed Work in place of the several kinds called for.

BIDDER acknowledges that the Owner has the right to delete items in the Bid or change quantities at his sole discretion without affecting the Agreement or prices of any item so long as the deletion or change does not exceed fifty percent (50%) of the total Contract Amount.

QUANTITIES

The approximate quantities of Work to be completed in place under the Agreement at unit prices are identified in the "Bid Schedule" and are for the purpose of comparing bids. These quantities have been estimated from the Contract Documents. The quantities used are for the general information of the bidder and represent the major items of the work to be done. Minor items and minor details are not listed but shall be part of the complete Agreement.

RESPECTFULLY SUBMITTED:

Signature

Date

Title

License Number (if applicable)

(SEAL - IF BID is by a corporation)

Attest _____

Address: _____

Telephone: _____

SECTION 00400

SUPPLEMENTS TO BID PROPOSAL

00410 - Bid Bond

00420 - Statement of Bidder's
Qualifications

00430 - Schedule of Major Subcontractors

00450 - Schedule of Major Equipment

00480 - Non-collusion Affidavit of
Prime Bidder

SECTION 00410

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we, the undersigned _____ as Principal, and _____ as Surety, are hereby held and firmly bound unto the Town of Frederick in the sum of \$ _____ for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors, and assigns.

THE CONDITION of this obligation is such that whereas the Principal has submitted to the Town of Frederick a certain BID attached hereto and hereby made a part hereof to enter into an Agreement in writing for the following Work:

2016 Pavement Maintenance Program

NOW THEREFORE,

- (a) If said BID shall be rejected, or
- (b) If said BID shall be accepted and the Principal shall execute and deliver an Agreement in the form of the Agreement attached hereto (properly completed in accordance with said BID) and shall furnish a BOND for his faithful performance of said Agreement, and for payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the Agreement created by the acceptance of said BID, then this obligation shall be void; otherwise the same shall remain in force and effect, it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its BOND shall be in no way impaired or affected by any extension of the time within which the Owner may accept such BID; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Principal

Surety

By: _____

Title: _____

IMPORTANT: Surety companies executing Bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the Work is located.

SECTION 00420

STATEMENT OF BIDDER'S QUALIFICATIONS

All questions must be answered and the data given must be clear and comprehensive. This statement must be notarized. If necessary, questions may be answered on separate attached sheets. The Bidder may submit any additional information he desires.

1. Name of Bidder: _____
2. Permanent main office address: _____
3. When organized: _____
4. If a corporation, where incorporated: _____
5. How many years have you been engaged in the contracting business under your present firm or trade name?

6. Contracts on hand: (Schedule these, showing amount of each contract and the appropriate anticipated dates of completion.)

7. General character of work performed by your company:

8. Have you ever failed to complete any work awarded to you? _____
If so, where and why? _____

9. Have you ever defaulted on a contract? _____
If so, where and why? _____

10. List the more important projects recently completed by your company, stating the approximate cost of each, and the month and year completed, location and type of construction.

11. List your major equipment available for this Work.

12. Experience in construction work similar in type and importance to this Work:

13. Background and experience of the principal members of your organization, including officers:

14. Credit available: \$ _____

15. Bank reference: _____

16. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the Owner? _____

17. Are you licensed as an Excavator, Pipeline Constructor or any other title? _____

If yes, in what city, county and state? _____

What class, license and numbers? _____

Note: The CONTRACTOR must be or become licensed in the city or county for which or where this Work is to be performed.

18. Do you anticipate subcontracting work under this Agreement? _____
If yes, what percent of total Work? _____
19. Are any lawsuits pending or threatened against you or your firm at this time? _____
If yes, DETAIL _____
20. What are the limits of your public liability? DETAIL _____
What company? _____
21. What are your company's bonding limitations? _____
22. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the Owner in verification of the recital comprising this Statement of Bidder's Qualifications.

Dated at _____ this _____ day of _____ 20____.

Name of Bidder

By: _____

Title: _____

State of _____)

)
County of _____)

_____ being duly sworn deposes and says that he is _____
of _____ (Name of Organization) and that the answers to the
foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn to before me this _____ day of _____ 20____.

Notary Public

My commission expires _____.

SECTION 00430

SCHEDULE OF MAJOR SUBCONTRACTORS

The proposal is based on subcontracting certain major portions of the Work to subcontractors as listed below.

[illegible]

SECTION 00450

SCHEDULE OF MAJOR EQUIPMENT

[illegible]

NOTE: In connection with the major items of equipment to be furnished and installed, the Bidder does expressly agree to the following provision:

Should the Bidder indicate more than one manufacturer, or fail to indicate a manufacturer, the Owner shall have the specific right to make the selection at no additional cost to the Owner.

SECTION 00480

NONCOLLUSION AFFIDAVIT OF PRIME BIDDER

State of _____)

County of _____)

_____, being first duly sworn, deposes and says that:

(1) He is _____ of _____

(title) _____,

the Bidder that has submitted the attached Bid;

(2) He is fully informed respecting the preparation and content of the attached Bid and of all pertinent circumstances respecting such Bid.

(3) Such Bid is genuine and is not a collusive or sham Bid;

(4) Neither the said Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other Bidder, firm, or person to submit a collusive or sham Bid in connection with the Agreement for which the attached Bid has been submitted or to refrain from bidding in connection with such Agreement, or has in any manner, directly or indirectly, sought by agreement or collusion or communication or conference in the attached Bid or any other Bidder, or to fix any overhead, profit or cost element of the Bid price or the Bid price of any other Bidder, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the Owner or any other person interested in the proposed Agreement; and

(5) The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Signed _____

Title _____

Subscribed and sworn to before me this ____ day of _____ 20____.

Notary Public

My commission expires _____.

SECTION 00500

AGREEMENT FORMS

00510 - Notice of Award

00520 - Agreement

00530 - Notice to Proceed

SECTION 00510

NOTICE OF AWARD

DATE: _____

TO: _____

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

OWNER: Town of Frederick, Colorado

You are hereby notified that your Bid dated _____ for the above Work has been considered. You are the apparent Successful Bidder and an Agreement for the Work will be executed.

The Contract Amount is \$ _____.

You must comply with the following conditions within five (5) days of the date of this Notice of Award.

You must deliver to the Owner five sets of the Contract Security (Bonds) and Insurance Forms as specified in the Instructions to Bidders, General Conditions (Article 5) and Supplementary Conditions.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

OWNER: Town of Frederick, Colorado

BY: _____
Steve Stanish

TITLE: Project Manager

SECTION 00520

AGREEMENT

STATE OF COLORADO _____)
_____)ss.
COUNTY OF WELD _____)

THIS AGREEMENT AND FORMAL CONTRACT, made and entered into this _____ day of _____, 2015, by and between Town of Frederick, Colorado, party of the first part, hereinafter called the "OWNER", and _____ a Corporation of _____, State of Colorado, hereinafter called the "CONTRACTOR", party of the second part,

WITNESSETH, that whereas the OWNER intends to construct the 2016 Pavement Maintenance Program, hereinafter called the "Work", in accordance with the Drawings, Specifications, and other Contract Documents prepared by the Town of Frederick.

NOW, THEREFORE, the OWNER and CONTRACTOR for the considerations hereinafter set forth, agree as follows:

1. The CONTRACTOR agrees to furnish all the necessary labor, materials, equipment, tools and services necessary to perform and complete in a workmanlike manner all work required for the construction of the Work, in strict compliance with the Contract Documents herein mentioned, which are hereby made a part of the Agreement, including the following Addenda:

Addendum No.	Date

- a) Contract Time: The CONTRACTOR agrees to commence work under this Contract in accordance with the written Notice to Proceed, and to finally complete the Work within 110 calendar days of the commencement of the Contract Time as defined in the General Conditions of the Contract.
 - b) Sub-Contractors: The CONTRACTOR agrees to bind every Subcontractor by the terms of the Contract Documents. The Contract Documents shall not be construed as creating any contractual relation between the Subcontractor and the OWNER.
 - c) Additional Work: Prior to incorporation of any change order into the Contract, or the performance of additional work, OWNER must make appropriations for any increase to the Contract Amount.
2. The OWNER agrees to pay, and the CONTRACTOR agrees to accept, in full payment for the performance of this Agreement, and in accordance with the Contract Documents, the Contract Amount of: \$_____, plus any and all sums to be added and/or deducted resulting from all extra and/or omitted work in connection therewith, as authorized under the terms as stated in the General and Supplementary Conditions, all in accordance with the terms as stated in the Contract Documents.

- a) Progress Payments will be made in accordance with the General and Supplementary Conditions of the Contract Documents.
- b) Progress Payments will be in the amount equal to ninety percent (95%) of the calculated value of the Work completed. The amount retained as provided above will be withheld by the OWNER until completion of the Agreement to ensure faithful completion of the Work under the terms of the Contract Documents.
- c) Upon completion and acceptance of the Work in accordance with the Contract Documents, OWNER shall pay the remainder of the Contract Amount after publication by the OWNER in accordance with Colorado statutory requirements.

3. Contract Documents

It is hereby mutually agreed that the following list of instruments, plans, specifications, and documents which are attached hereto, bound herewith or incorporated herein by reference shall constitute the Contract Documents, all of which are made a part hereof, and collectively evidenced and constitute the Agreement between the parties hereto, and they are fully a part of the Agreement as if they were set out verbatim and in full herein, and are designated as follows:

- a) Bid Proposal
- b) Notice of Award
- c) Agreement
- d) Performance and Payment Bonds
- e) Certificates of Insurance, Policy Endorsement
- f) Notice to Proceed
- g) General Conditions
- h) Supplementary Conditions
- i) Technical Specifications
- j) Construction Drawings
- k) Addenda

4. Liquidated Damages

OWNER and CONTRACTOR recognize that time is of the essence in this Agreement and that the OWNER will suffer financial loss if the Work is not complete within the time specified in paragraph 1.a) above, plus any extensions thereof allowed in accordance with the General Conditions. They also recognize the delays, expense and difficulties involved in proving, in a legal proceeding, the actual loss suffered by OWNER if the Work is not complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) CONTRACTOR shall pay OWNER \$ 2,000 for each calendar day that expires after the time specified in paragraph 1.a) for final completion until the Work is finally complete.

5. Contractor Representations

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

- a) CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state, and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.
- b) CONTRACTOR has studied carefully the Contract Documents and all other items otherwise affecting cost, progress or performance of the Work which were relied upon by the Engineer in the preparation of the Contract Drawings and Specifications and which have been identified in the Supplementary Conditions as a part of the Contract Documents.

- c) CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 5.b) as he deems necessary for the performance of the Work at the Contract Amount, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.
- d) CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
- e) CONTRACTOR has given Engineer written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof by Engineer is acceptable to CONTRACTOR.

6. Miscellaneous

- a) Terms used in this Formal Contract which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.
- b) No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law); and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- c) OWNER and CONTRACTOR each binds himself, his partners, successors, assigns, and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- d) No mechanic, contractor, sub-contractor, material supplier or other person can or will contract for or in any manner have or acquire any lien upon the Work covered by this Agreement, or the land upon which the same is situated.
- e) The amount of money appropriated by the contracting public entity, for public works projects, is equal to or in excess of the Contract Amount.
- f) The Agreement prohibits the issuance of any written Modification or other form of order or directive by the Owner requiring additional commensurate Work to be performed, which Work causes the aggregate amount payable under the Agreement to exceed the Contract Amount appropriated for the original Agreement, unless the Contractor is given written assurance by the Owner that lawful appropriations to cover the costs of the additional work have been made or unless such work is covered under remedy-granting provisions in the Agreement.

SIGNATURES:

OWNER: Town of Frederick, Colorado

DATE: _____

BY: _____

TITLE: _____

ATTEST: _____

TITLE: _____

Address for giving notices:

401 Locust Street
P.O. Box 435
Frederick, Colorado 80530

CONTRACTOR: _____

DATE: _____

BY: _____

TITLE: _____

ATTEST: _____

TITLE: _____

Address for giving notices:

SECTION 00530

NOTICE TO PROCEED

TO: _____

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

OWNER: Town of Frederick, Colorado

This notice is to advise you:

That the Agreement covering the above described Work has been fully executed by the Contractor and the Owner.

That the required Contractor's Performance Bond, Payment Bond and Certificates of Insurance and Policy Endorsement have been received by the Owner.

That the Owner has approved the said Contract Documents.

That the Contract Time commences upon execution of this Notice to Proceed by the Owner.

Therefore, as the Contractor for the above described Work, you are hereby authorized and directed to proceed within ten (10) calendar days from receipt of this notice, as required by the Agreement.

Dated ____ day of _____, ____.

OWNER: Town of Frederick, Colorado

BY: _____

TITLE: _____

ACKNOWLEDGMENT OF NOTICE

Receipt of this Notice to Proceed is hereby acknowledged this _____ day of _____, 20____.

CONTRACTOR: _____

BY: _____

TITLE: _____

SECTION 00600

BONDS AND CERTIFICATES

00610 - Performance Bond

00615 - Payment Bond

**00630 - Certificate of
Substantial Completion**

**00640 - Certificate of Final
Acceptance**

**00650 - Lien Waiver Release
(Contractor)**

**00651 - Lien Waiver Release
(Subcontractor)**

00660 - Consent of Surety

SECTION 00610

PERFORMANCE BOND

Bond No.

KNOW ALL MEN BY THESE PRESENTS: that

(Firm)_____

(Address)_____

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm)_____

(Address)_____

hereinafter referred to as "the Surety", are held and firmly bound unto the Town of Frederick, Colorado, a Corporation hereinafter referred to as "the Owner", in the penal sum of _____ Dollars in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Agreement with

the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and

made a part hereof for the performance of the Work, 2016 Pavement Maintenance Program.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms and conditions of said Agreement during the original Contract Time thereof, and any extensions thereof which may be granted by the Owner, with or without Notice to the Surety and during the life of the warranty period, and it shall satisfy all claims and demands incurred under such Agreement, and shall fully indemnify and save harmless the Owner from all cost and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlay and expense which the Owner may incur in making good any default, and then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder or the Contract Documents accompanying the same shall in any way affect its obligation on this bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in five (5) counterparts, each one of which shall be deemed an original, this _____ day of _____, 20____.

PRINCIPAL

ATTEST:

By: _____

Title: _____

Principal: _____

By: _____

Title: _____

(Address)

(Corporate Seal)

SURETY

ATTEST:

By: _____

Attorney-In-Fact: _____

Surety: _____

By: _____

Title: _____

(Address)

(Surety Seal)

NOTE: Date of Bond must not be prior to date of Agreement.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.

SECTION 00615

PAYMENT BOND

Bond No.

KNOW ALL MEN BY THESE PRESENTS: that

(Firm)_____

(Address)_____

(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm)_____

(Address)_____

hereinafter referred to as "the Surety", are held and firmly bound unto the Town of Frederick, Colorado, a Corporation, hereinafter referred to as "the Owner", in the penal sum of _____ Dollars in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Agreement with

the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof for the performance of the Work, 2016 Pavement Maintenance Program.

NOW, THEREFORE, if the Principal shall make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such Agreement, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the execution of such Work, and all insurance premiums on said Work, and for all labor, performed in such Work whether by Subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed there under or the Contract Documents accompanying the same shall in any way affect its obligation on this Bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or to the Contract Documents.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in five (5) counterparts, each one of which shall be deemed an original, this ____ day of _____, 20____.

PRINCIPAL

ATTEST:

By: _____

Title: _____

Principal: _____

By: _____

Title: _____

(Address)

(Corporate Seal)

SURETY

ATTEST:

By: _____

Attorney-In-Fact: _____

Surety: _____

By: _____

Title: _____

(Address)

(Surety Seal)

NOTE: Date of Bond must not be prior to date of Agreement.

IMPORTANT: Surety Company must be authorized to transact business in the State of Colorado and be acceptable to the Owner.

SECTION 00630

CERTIFICATE OF SUBSTANTIAL COMPLETION

TO: _____

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

OWNER: Town of Frederick, Colorado

DATE OF SUBSTANTIAL COMPLETION: _____

DATE OF AGREEMENT: _____

The Work performed under this Agreement has been reviewed by authorized representatives of the Owner, Contractor, and the Engineer and the Work (or specified part of the Work, as indicated above) is hereby declared to be substantially complete on the above stated date.

A tentative list of items to be completed or corrected is appended hereto. This list may not be fully inclusive, and the failure to include an item on it does not alter the responsibility of the Contractor to complete all the Work in accordance with the Contract Documents.

ENGINEER: Town of Frederick Engineering DATE: _____

BY: _____ TITLE: _____

The Contractor accepts this Certificate of Substantial Completion and agrees to complete and correct the items on the tentative list within the time indicated.

CONTRACTOR: _____ DATE: _____

BY: _____ TITLE: _____

The Owner accepts the Work or specified parts of the Work as substantially complete and will assume full possession of the Work or specified part of the Work. The responsibility for utilities, security, and insurance under the Contract Documents shall be as set forth under "Remarks" below.

OWNER: Town of Frederick, Colorado DATE: _____

BY: _____ TITLE: _____

REMARKS: _____

SECTION 00640

CERTIFICATE OF FINAL ACCEPTANCE

DATE: _____

TO: _____

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

OWNER: Town of Frederick, Colorado

Gentlemen:

You are hereby notified that the Owner has accepted the Work.

A check is attached hereto in the amount of \$ _____ as final payment for all work done, subject to the terms of the Contract Documents which are dated ____, __, 201__.

In conformance with the Contract Documents for the Work, your obligations and warranty period will continue for the specified time from the date as set forth herein above, until __day of _____, 20__.
per the Supplementary Conditions.

Sincerely,

OWNER: Town of Frederick, Colorado

BY: _____

TITLE: _____

SECTION 00650

LIEN WAIVER RELEASE (Contractor)

TO: Town of Frederick, Colorado

(hereinafter referred to as "the Owner")

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

CONTRACTOR: _____

1. The undersigned does hereby release all claims, Mechanic's Liens Rights, Miller Act Claims (40 USCA 270), Stop Notice, Equitable Liens and Labor and Material Bond Rights resulting from labor and/or materials, subcontract work, equipment or other work, rents, services or supplies heretofore furnished in and for the construction, design, improvement, alteration, additions to or repair of the above described Work.
2. This release is given for and in consideration of the sum of \$ _____ and other good and valuable consideration. If no dollar consideration is herein recited, it is acknowledged that other adequate consideration has been received by the undersigned for this release.
3. The undersigned agrees to defend and hold harmless the Owner and the lender, if any, and Surety from any claim or claims hereinafter made by the undersigned or its Suppliers, Subcontractors or employees, servants, agents or assigns of such persons against the Work. The undersigned agrees to indemnify or reimburse all persons so relying upon this release for any and all sums, including attorney's fees and costs, which may be incurred as the result of any such claims.
4. It is acknowledged that the designation of the above Work constitutes an adequate description of the property and improvements for which the undersigned has received consideration for this release.
5. It is further warranted and represented that all such claims against the undersigned or the undersigned's Subcontractors or Suppliers have been paid or that arrangements, satisfactory to the Owner, have been made for such payments.
6. It is acknowledged that this release is for the benefit of and may be relied upon by the Owner and the lender, if any, and the principal and Surety on any Performance and Payment Bonds for the Work.
7. In addition to the foregoing, this instrument shall constitute a _____ ("full, final and complete" or "partial") release of all rights, claims and demands of the undersigned against the Owner arising out of or pertaining to the above referenced Work. If partial, all rights and claims on the Work are released up to and including the ____ day of _____ 20____.

Dated this _____ day of _____, 20____.

CONTRACTOR: _____

BY: _____

TITLE: _____

STATE OF _____)
) ss.

COUNTY OF _____)

The foregoing release was subscribed and sworn to before me this _____ day of _____, 20____.
by _____ (as _____
of _____).

Notary Public

My commission expires: _____.

SECTION 00651

LIEN WAIVER RELEASE (Subcontractor)

TO: Town of Frederick, Colorado
(hereinafter referred to as "the Owner").

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

SUBCONTRACTOR: _____

1. The undersigned does hereby release all claims, Mechanic's Liens Rights, Miller Act Claims (40 USCA 270), Stop Notice, Equitable Liens and Labor and Material Bond Rights resulting from labor and/or materials, subcontract work, equipment or other work, rents, services or supplies heretofore furnished in and for the construction, design, improvement, alteration, additions to or repair of the above described Work.
2. This release is given for and in consideration of the sum of \$ _____ and other good and valuable consideration. If no dollar consideration is herein recited, it is acknowledged that other adequate consideration has been received by the undersigned for this release.
3. In further consideration of the Payment made or to be made as above set forth, and to induce the Contractor to make said payment, the undersigned agrees to defend and hold harmless the Owner and lender, if any, and Surety from any claim or claims hereinafter made by the undersigned or its Suppliers, Subcontractors or employees, servants, agents or assigns of such persons against the Work. The undersigned agrees to indemnify or reimburse all persons so relying upon this release for any and all sums, including attorney's fees and costs, which may be incurred as the result of any such claims.
4. It is acknowledged that the designation of the above Work constitutes an adequate description of the property and improvements for which the undersigned has received consideration for this release.
5. It is further warranted and represented that all such claims against the undersigned or the undersigned's Subcontractors or material suppliers have been paid or that arrangements, satisfactory to the Owner and Contractor, have been made for such payments.
6. It is acknowledged that this release is for the benefit of and may be relied upon by the Owner, the Contractor, the lender, if any, and the principal and Surety on any Performance and Payment bonds for the Work.
7. In addition to the foregoing, this instrument shall constitute a _____ ("full, final and complete" or "partial") release of all rights, claims and demands of the undersigned against the Owner arising out of or pertaining to the above referenced Work. If partial, all rights and claims on the Work are released up to and including the ____ day of _____ 20__.

Dated this _____ day of _____, 20____.

CONTRACTOR: _____

BY: _____

TITLE: _____

STATE OF _____)

) ss.

COUNTY OF _____)

The foregoing release was subscribed and sworn to before me this ____ day of _____, 20____.

by _____ (as _____

of _____).

Notary Public

My commission expires: _____.

SECTION 00660

CONSENT OF SURETY

TO: Town of Frederick, Colorado
(hereinafter referred to as "the Owner")

DESCRIPTION OF WORK: 2016 Pavement Maintenance Program

DATE OF AGREEMENT: _____

In accordance with the provisions of the Agreement between the Owner and the Contractor for the Work indicated

above, _____

on bond of (Surety) _____ hereby
approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the
Surety Company of any of its obligations to the Owner, as set forth in the said Surety Company's Bonds and the
Contract Documents for the Work.

IN WITNESS WHEREOF, the Surety Company has hereunto set its hand this _____ day of _____, 20____.

(Surety Company)

BY: _____

ATTACH: Power of Attorney and Certificate of Authority of Attorney(s)-in-Fact.

SECTION 00700

GENERAL CONDITIONS

- Article 1 - Definitions
- Article 2 - Preliminary Matters
- Article 3 - Contract Documents:
Intent and Reuse
- Article 4 - Physical Conditions
- Article 5 - Bonds and Insurance
Requirements
- Article 6 - Scope of Work
- Article 7 - Execution of the Work
- Article 8 - Control of Material
- Article 9 - Legal Relations and
Responsibility to the
public
- Article 10 - Prosecution and Progress
- Article 11 - Measurement and Payment

Article 12 - Warranty and Guarantee;
Access to Work;
Continuation of Work;
Partial Utilization

Article 13 - Work by Others

Article 14 - Miscellaneous

SECTION 00700

GENERAL CONDITIONS

ARTICLE 1

DEFINITIONS

Wherever used in these General Conditions or in the other sections of these Contract Documents, the following terms, or pronouns in place of them, have the meanings indicated which are applicable to both the singular and plural thereof:

- 1.1 A.A.S.H.T.O.: The American Association of State Highway and Transportation Officials.
- 1.2 A.S.A.: The American Standards Association.
- 1.3 A.S.T.M.: The American Society for Testing Materials.
- 1.4 AWWA: The American Water Works Association.
- 1.5 ADDENDA: Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents and the Contract Documents.
- 1.6 AGREEMENT: The written agreement between Owner and Contractor covering the Work to be performed; other sections of these Contract Documents are attached to the Agreement and made a part thereof as provided therein.
- 1.7 APPLICATION FOR PAYMENT: The form accepted by the Engineer and Owner which is to be used by the Contractor in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents, Owner or Engineer.
- 1.8 BID: The offer or proposal of the Bidder submitted on the prescribed Bid Proposal form setting forth the costs for the Work to be performed.
- 1.9 BIDDER: Any individual, firm or corporation, submitting a proposal directly to the Owner for the Work contemplated, acting directly or through a duly authorized representative.
- 1.10 BONDS: Bid, performance and payment bonds and other instruments of security.
- 1.11 CHANGE ORDER: A written modification to the Contract signed by the Engineer and the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Amount or the Contract Time issued after the effective date of the Agreement. Prior to incorporation of any Change Order into the Work OWNER must make appropriations for any increase to the Contract Amount.
- 1.12 COMPLETION: The Work or a portion thereof, has progressed to a point where, in the opinion of the Engineer and the Owner it is totally complete, and the Engineer certifies that the Work is generally in accordance with the Contract Documents. The Contractor has fulfilled all of his obligations under the Contract Documents, except for certain continuing obligations. The aforementioned completion shall be sufficient to meet the requirements set forth for Final Payment and Acceptance in Paragraph 11.19 of the General Conditions. The terms "complete" and "completed" as applied to the Work refer to completion.
- 1.13 CONTRACT OR CONTRACT DOCUMENTS: The written agreement executed between the Owner and the successful bidder, covering the performance of the Work and the furnishing of labor and materials, by which the Contractor is bound to perform the Work and furnish the labor and materials, and by which the Owner is obligated to compensate him therefore at the mutually established and accepted Contract Amount. The Contract Documents

shall include the Instructions to Bidders, Agreement, Notice of Award, Addenda (which pertain to the Contract Documents, Contractor's Bid Proposal including documentation accompanying the Bid and Award), Bonds, Certificates of Insurance, these General Conditions, Supplementary Conditions, Technical Specifications, Drawings, and other items specifically identified in the Agreement together with all Modifications issued after the execution of the Agreement.

1.14 **CONTRACT AMOUNT:** The moneys payable by Owner to Contractor under the Contract Documents as stated in the Agreement.

1.15 **CONTRACT TIME:** The number of days for the completion of the Work as stated in the Agreement commencing with the date of the Notice to Proceed.

1.16 **CONTRACTOR:** The individual, partnership, firm, or corporation with whom Owner has entered into the Agreement, acting directly or through lawful agents or employees, primarily liable for the acceptable performance of the Work for which contracted, and also for the payment of all legal debts pertaining to the Work.

1.17 **DAY:** A calendar day of twenty-four hours measured from midnight to the next midnight.

1.18 **DEFECTIVE:** An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to final payment.

1.19 **DISTRICT:** A legally constituted group of individuals who have joined together as a quasi-municipal corporation and political subdivision organized or acting pursuant to the provisions of Title 21, Article 1 of the Colorado Revised Statutes in order to facilitate construction of utility systems within the limits of their property. The District shall be represented by its authorized Board of Directors in accordance with its statutory powers.

1.20 **DRAWINGS:** The Contract Drawings or exact reproduction thereof, which graphically show the character and scope of the Work to be performed and which have been prepared or approved in concept by the Engineer and are referred to in and a part of, the Contract Documents.

1.21 **EFFECTIVE DATE OF THE AGREEMENT:** The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.22 **ENGINEER:** The person, firm, or corporation named as such in the Contract Documents.

1.23 **EQUIPMENT:** All machinery, together with the necessary parts supplied for upkeep and maintenance, and also all tools and apparatus necessary for the proper construction and acceptable completion of the Work.

1.24 **FEDERAL SPECIFICATIONS:** The Federal Specifications and Standards, and supplements, amendments, and indices thereto, are prepared and issued by the General Services Administration of the Federal Government. These may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20025.

1.25 **FIELD ORDER:** A written order to the Contractor issued by the Engineer effecting a change in the Work not involving an adjustment in the Contract Amount or an adjustment in the Contract Time.

1.26 **INTENTION OF TERMS:** Whenever, in these Specifications or upon the Drawings, the words "directed", "required", "permitted", "ordered", "designated", "prescribed", or words of like import, are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the Engineer is intended; and similarly, the words "approved", "acceptable", "satisfactory", or words of like import, shall mean approved by, or acceptable to, or satisfactory to the Engineer, subject in each case to the final determination of the Owner. Any reference to a paragraph or subparagraph within a section shall include the general provision of the section or sections and paragraph pertinent thereto.

1.27 **LABORATORY:** The official testing laboratories of the Owner or such other laboratories as may be

designated by the Engineer.

1.28 **MODIFICATION:** (a) A written amendment of the Contract Documents signed by both parties, (b) a Change Order, or (c) a Supplemental Agreement. A modification may only be issued after the effective date of the Agreement. Prior to any Modification becoming effective, OWNER must make appropriations for any increase to the Contract Amount in accordance with Colorado statutory requirements.

1.29 **NOTICE OF AWARD:** The written notice by Owner to the apparent successful Bidder stating that upon compliance by the apparent Successful Bidder with the conditions precedent enumerated therein, within the time specified, Owner will sign and deliver the Agreement.

1.30 **NOTICE TO PROCEED:** A written notice given by Owner to Contractor (with a copy to Engineer), the date of which fixes the Contract Time will commence to run and on which Contractor shall start to perform his obligation under the Contract Documents.

1.31 **OWNER:** The public body or authority, corporation, association, firm or individual with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.32 **PAYMENT BOND:** The approved form of security furnished by the Contractor and his Surety as a guarantee that he will pay in full all bills and accounts for materials and labor used in the execution of the Work, as provided by law.

1.33 **PERFORMANCE BOND:** The approved form of security furnished by the Contractor and his Surety as a guarantee of good faith and ability on the part of the Contractor to execute the Work in accordance with the terms of the Contract Documents.

1.34 **PROJECT REPRESENTATIVE:** An authorized representative of the Owner who is assigned to the Work or any part thereof.

1.35 **PROJECT MANAGER:** An authorized representative of the Owner who is assigned to the Work or any part thereof.

1.36 **PROPOSAL:** See "BID".

1.37 **SHOP DRAWINGS:** All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by the Contractor, a Subcontractor, manufacturer, fabricator, supplier or distributor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a manufacturer, fabricator, supplier or distributor and submitted by Contractor to illustrate material or equipment for some portion of the Work.

1.38 **SPECIFICATIONS:** A part of the Contract Documents consisting of written descriptions, of a technical nature, of materials, equipment, construction systems, standards and workmanship for execution of the work which may be included in the Contract Documents.

1.39 **SUBCONTRACTOR:** An individual, firm or corporation having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.

1.40 **SUBSTANTIAL COMPLETION:** The Work (or a specified part thereof) has progressed to the point where, in the opinion of the Engineer as evidenced by a written opinion as to Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part thereof) can be utilized or partially utilized for the purposes and in a manner for which it was intended; or if there be no such written opinion issued, when final payment is due in accordance with paragraph 11.19. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

1.41 **SUPERINTENDENT:** Executive representative for the Contractor present on the Work at all times, authorized to receive and fulfill instructions from the Engineer and capable of superintending the Work efficiently.

1.42 **SUPPLEMENTAL AGREEMENT:** A written proposal and agreement executed by the Contractor and by the Owner with the consent of the Contractor's Surety, covering Work not included in the Contract Documents or as

specified in paragraph 6.3 which is necessary or desirable to the proper completion of the Work.

1.43 **SUPPLEMENTARY CONDITIONS:** The part of the Contract Documents which amends or supplements the General Conditions and Technical Specifications.

1.44 **SURETY:** The corporate body or individuals who are bound by the Performance Bond and the Payment Bond with and for the Contractor, and which engage to be responsible for the entire and satisfactory fulfillment of the Agreement and for the payment of all debts incurred in fulfilling the Agreement.

1.45 **WORK:** The term "Work" shall be understood to mean the furnishing of all labor, materials, equipment, and other incidentals necessary or convenient to the successful completion of the Work and the carrying out of all the duties and obligations imposed by the Contract Documents and the entire completed execution or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Prior to incorporation of any Modification to the Work, OWNER must make appropriations for any increase to the Contract Amount.

END ARTICLE 1

ARTICLE 2

PRELIMINARY MATTERS

PROPOSAL REQUIREMENTS AND CONDITIONS

Substitution of Equipment and Materials:

2.1 Where items of equipment and/or materials are specifically identified by a manufacturer's name, model or catalog number, only such specific items may be used in the Bid unless prior written approval of other material has been obtained from the Engineer. Applications for such approval shall be submitted in duplicate at least six working days prior to Bid opening date. Applications for approval shall be accompanied by a typewritten listing of the specified manufacturer and catalog number and shall also state in typewritten detail any and all significant details in which each item requested for approval differs from the item specified. Failure to so list such information shall not relieve the Contractor from providing properly functioning or fitting materials, regardless of the approval action taken by the Engineer.

Rejection of Irregular Bid:

2.2 Bids containing any omission, alternations of form, addition or conditions not called for, conditional or alternate Bids unless called for, incomplete Bids, or Bids otherwise regular which are not accompanied by acceptable Bid Securities, will be considered irregular and may be rejected. The Owner reserves the right to waive technicalities as to changes, alterations or reservations, and make the award to the best interest of the Owner.

Disqualification of Bidders:

2.3 Any one or more of the following causes may be considered as sufficient for the disqualification of Bidder and the rejection of his Bid or Bids:

- (a) More than one Bid for the same Work from an individual, firm, partnership, or corporation under the same or different names.
- (b) Evidence of collusion among Bidders. Participants in such collusion may receive no recognition as Bidders for any future Work.
- (c) Unbalanced Bids in which the prices for some items are out of proportion to the prices for other items.
- (d) Failure to submit a price for each item of Work for which a Bid price is required by the Bid.
- (e) Lack of competency as revealed by the financial statement, experience, plant and equipment statements submitted.
- (f) Lack of responsibility as shown by past Work judged from the standpoint of workmanship and progress.
- (g) Uncompleted Work which, in the judgment of the Owner, might hinder or prevent the prompt completion of additional Work if awarded.
- (h) For being in arrears on existing contracts, in litigation with the Owner, or having defaulted on a previous contract.
- (i) Lack of adequate bonds and/or insurance as required by the Contract Documents.
- (j) Any other reason which in the discretion of Owner, renders Bidder unfit to perform the Work or gives the Owner cause to believe there is substantial likelihood that Bidder will default on the Agreement and it is therefore not in Owner's best interest to make such an award.

Materials Guaranty:

2.4 Before any Agreement is awarded, Bidders may be required to furnish a complete statement of the origin, composition and manufacture of all or any materials to be used in the construction of the Work, together with samples, which samples may be subjected to the tests provided for in the Contract Documents to determine their quality and fitness for the Work.

Failure to Execute Agreement:

2.5 Failure to comply with any of the requirements of the Bid Proposal to execute the Agreement within five (5) days after the date of the Notice of Award or to furnish Bonds, Certificates of Insurance and other documents as required, shall be just cause for the annulment of the award. In the event of such annulment of the award, the amount of Bid Security shall become the property of the Owner, not as a penalty but as liquidated damages. Award may then be made to the next qualified Bidder, or the Work re-advertised, or handled as the Owner may elect.

Copies of Contract Documents:

2.6 Owner shall furnish to Contractor up to five copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

COMMENCEMENT OF CONTRACT TIME

Notice To Proceed:

2.7 The Contract Time will commence to run in accordance with the Owner's signature date on the Notice To Proceed which shall be issued no later than thirty days after the date of the Agreement.

Starting the Work:

2.8 Contractor shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site of the Work prior to the date on which the Contract Time commences to run unless prior approval is given by Engineer and Owner.

Before Starting Construction:

2.9 Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error or discrepancy which Contractor may discover.

2.10 Within three days after the date of the Agreement (unless otherwise specified in the Supplementary Conditions), Contractor shall submit to Engineer for review an initial schedule indicating the starting and completion dates of the various stages of the Work, a preliminary schedule of Shop Drawing submissions, and an initial schedule of values of the Work where applicable.

Preconstruction Conference:

2.11 Within five days after the date of the Agreement, but before Contractor starts the Work at the site, a conference will be held for review of the schedules referred to in paragraph 2.10, to establish procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish such working understandings among the parties as to the Work as are not inconsistent with the Contract Documents.

END OF ARTICLE 2

ARTICLE 3

CONTRACT DOCUMENTS: INTENT AND REUSE

Intent:

3.1 It is the intent of this Agreement to describe a complete project which may be utilized for its intended purpose(s) as more fully described in the Contract Documents. The Contract Documents comprise the entire agreement between Owner and Contractor concerning the Work. They may be altered only by a written modification.

3.2 The Contract Documents are complementary; what is called for by one is as binding as if called for by all. If, during the performance of the Work, the Contractor finds a conflict, error or discrepancy in the Contract Documents, he shall report it to Engineer in writing at once and before proceeding with the Work affected thereby; however, Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof or should reasonably have known thereof.

3.3 It is the intent of the Contract Drawings and Specifications to describe the complete Work (or part thereof) to be executed in accordance with the Contract Documents. Any Work that may reasonably be inferred from the Contract Drawings and Specifications as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe the Work, materials or equipment, such words shall be interpreted in accordance with such meaning.

Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the code of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual or code in effect at the time of opening of Bids (or, on the effective date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of Owner, Contractor or Engineer, or any of their agents or employees from those set forth in the Contract Documents. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided for in paragraph 7.6.

3.4 The Contract Documents will be governed by the laws of the State of Colorado.

Reuse of Documents:

3.5 Neither Contractor nor any Subcontractor, manufacturer, fabricator, supplier or distributor shall have or acquire any title to or ownership rights in any of the Contract Drawings and Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of the Engineer; and they shall not reuse any of them on extensions of the Work or any other project without written consent of the Owner and the Engineer and specific written verification or adoption by the Engineer.

END ARTICLE 3

ARTICLE 4

PHYSICAL CONDITIONS

Physical Conditions--Investigations and Reports:

4.1 Reference is made to the Supplementary Conditions for identification of those reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which have been relied upon by the Engineer in preparation of the Contract Drawings and Specifications. Such reports are not guaranteed as to accuracy or completeness and are not part of the Contract Documents.

Unforeseen Physical Conditions:

4.2 Contractor shall promptly notify Owner and Engineer in writing of any subsurface or latent physical conditions at the site or in any existing structure differing materially from those indicated or referred to in the Contract Documents. Engineer will promptly review those conditions and advise Owner in writing if further investigation or tests are necessary. Promptly thereafter, Owner shall obtain the necessary additional investigations and tests and furnish copies to Engineer and Contractor. If Engineer and Owner find that the results of such investigations or tests indicate that there are subsurface or latent physical conditions which differ materially from those identified in the Contract Documents, and which could not reasonably have been anticipated by Contractor after personal investigation and testing, a Change Order shall be issued incorporating the necessary revisions. No such change shall be approved unless asserted prior to Final Payment.

END ARTICLE 4

ARTICLE 5

BONDS AND INSURANCE REQUIREMENTS

General:

5.1 The Contractor shall not commence work under this Agreement until he has obtained all insurance required by these Contract Documents, and such insurance has been approved by the Owner, nor shall the Contractor allow any subcontractor to commence Work until all similar insurance required of the subcontractor has been obtained. **The Contractor shall add the Owner and Engineer together with their officers, agents and employees, to all relevant insurance policies as an additional named insured.**

Workmen's Compensation Insurance:

5.2 The Contractor shall obtain and maintain during the life of this Agreement adequate Workmen's Compensation Insurance as prescribed by the Workmen's Compensation Act, as amended, of the State of Colorado. This insurance shall cover all of his employees employed for the work. If any of the Work is sublet, the Contractor shall require each of his subcontractors to provide similar coverage for all of the latter's employees to be engaged in such Work.

Public Liability and Property Damage Insurance:

5.3 The Contractor shall be required to carry Comprehensive General Liability/Auto Liability insurance to protect himself, his subcontractors, the Owner, and the Engineer, including any officer or agent of said Owner and Engineer, from claims for public liability or property damage which may arise from the operations under this Agreement, whether such operations be by himself or by any subcontractor or anyone directly or indirectly employed by either of them. The minimum limits of insurance are indicated in the Supplementary Conditions. Any subcontractor will be required to carry Comprehensive General Liability and Automobile Liability insurance in an amount equal to that required by the Contractor. **The Comprehensive General Liability insurance will include as Additional Named Insureds: the Owner (name), the Engineer (name) and each of their consultants, agents and employees. The Contractor shall furnish a policy endorsement in addition to Certificate of Insurance.**

Contractor and his Surety agree that it will indemnify and hold harmless the Owner, the Engineer and all of their consultants, agents and employees from any loss, cost, damage, expense and liability including attorney's fees, by reason of property damage, personal injury, or death, such damage and injury of whatsoever nature or kind arising out of or as a result of the performance of the Work under this Agreement, or any negligent act or negligent failing to act, or on account of the use of improper or defective materials, or on account of any poor workmanship or on account of any act of omission or commission in connection with the performance of the Work by Contractor, its employees, agents and subcontractors. Contractor agrees that the Comprehensive General Liability and Property Damage Insurance (including Automobile Liability and Property Damage Insurance), which the Contractor is required to maintain pursuant to the Contract Documents shall not act as a limitation on Contractor's obligation to indemnify the Owner, the Engineer and all of their consultants, agents and employees. The Comprehensive General Liability insurance shall include broad form property damage coverage, broad form contractual liability coverage and completed operations insurance.

Property Insurance:

5.4 Contractor shall purchase and maintain property insurance upon the Work to the full replacement value thereof. This insurance shall include the interests of Owner, Engineer, Contractor and Subcontractors in the Work, shall insure against the perils of fire, earthquake, flood and extended coverage and shall include "all risk" insurance for physical loss and damage including theft, vandalism and malicious mischief, collapse and water damage, and such other perils as may be provided in the Supplementary Conditions, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including fees and charges of engineers, architects, attorneys and other professionals). If not covered

under the "all risk" insurance or otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment.

Proof of Insurance:

5.5 Prior to the commencement of any work under this Agreement, the Contractor shall furnish to the Owner certificates of insurance to prove that all required insurance is in force, and shall require any subcontractor to submit similar evidence before undertaking work under this Agreement. Each insurance policy shall contain a clause providing that it shall not be canceled or materially altered without thirty (30) days written notice to the Owner and Engineer. Insurance obtained by the Contractor shall be subject to approval by the Owner for adequacy of protection. Neither approval by the Owner of any insurance supplied by a Contractor or subcontractor, nor failure to disapprove such insurance shall relieve the Contractor or subcontractors of their obligation to maintain in full force during the life of the Agreement all required insurance as set forth in this Article and in the Supplementary Conditions.

Receipt and Application of Proceeds of Insurance:

5.6 Any insured loss under the policies of insurance required by this Article or the Supplementary Conditions shall be adjusted with Owner and made payable to Owner as trustee for the insureds, as their interests may appear, subject to the requirements of paragraph 5.7. Owner shall deposit in a separate account any money so received, and he shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the Cost thereof covered by an appropriate Change Order.

Adjustment and Settlement of Insurance Claims:

5.7 Owner as trustee shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as trustee shall only make settlement with the insurers in accordance with such agreement as the parties in interest may reach.

Performance, Payment and Other Bonds:

5.8 Contractor shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until the expiration of the warranty period. Contractor shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by the Contract Documents and be executed by such Sureties as (i) are licensed to conduct business in the State of Colorado and (ii) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Fiscal Service, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.9 If the Surety on any Bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Work is located or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 5.8, Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to Owner.

Changes in Work; Notice:

5.10 If notice of any change affecting the general scope of the Work or change in the Contract Amount is required by the provisions of any Bond to be given to the Surety, it will be Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. Contractor shall furnish proof of such adjustment to Owner.

Term of Insurance Required:

5.11 All insurance policies required pursuant to these Contract Documents shall remain in effect until final payment and at all times thereafter when Contractor may be correcting, removing or replacing defective Work in accordance with paragraph 12.5.

END ARTICLE 5

ARTICLE 6

SCOPE OF WORK

Intent of Drawings and Specifications:

6.1 The intent of the Contract Drawings and Specifications is to prescribe a complete work or improvement which the Contractor undertakes to do in full compliance with the Contract Documents, together with any authorized Modifications. The Contractor shall perform all items of work covered and stipulated in the Contract Documents together with any authorized modifications, all in accordance with the lines, grades, cross sections and dimensions shown on the Contract Drawings. The Contractor shall furnish, unless otherwise provided in the Contract Documents, all materials, equipment, implements, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of the Work.

6.2 Should any construction or conditions which are not thoroughly or satisfactorily stipulated or set forth by the Contract Drawings and Specifications be anticipated on any proposed Work, Supplementary Conditions for such work may be prepared and attached to the Bid Proposal Form and Agreement, and shall be considered as part of the Contract Documents, the same as though contained fully therein. Should any Supplementary Condition conflict with the General Conditions, the Supplementary Condition will govern.

Changes and Increased or Decreased Quantities of Work:

6.3 The Owner through the Engineer reserves and shall have the right to make such changes, from time to time, in the Contract Documents, the character or quantity of the Work as may be considered necessary or desirable to complete fully and acceptably the proposed Work in a satisfactory manner, provided such alterations do not change the Contract Amount of the Work, based on the originally estimated quantities and the unit prices Bid or lump sum Bid, by more than fifty percent (50%). Should it become necessary, for the best interest of the Owner, to make changes in excess of that herein specified, the same shall be covered by Supplemental Agreement. The Contractor shall not start work on any alteration requiring a Supplemental Agreement until the Agreement setting forth the adjusted prices shall be executed by the Engineer, Owner and Contractor. In case a satisfactory adjustment in the Contract Amount cannot be reached for any item requiring a Supplemental Agreement, the Owner reserves the right to terminate the Agreement as it applies to the items in question and make such arrangements as may be deemed necessary to complete the Work as altered or decreased. Engineer may authorize minor changes in the Work not involving an adjustment of Contract Amount or Contract Time, which are consistent with the overall intent of the Contract Documents. Said minor changes shall be binding on Owner and Contractor, and shall be performed promptly by Contractor.

Deleted Items:

6.4 The Engineer may, in writing, order deleted from the Work any item other than major items found unnecessary to the Work and such deletion shall not be a waiver of any condition of the Agreement nor invalidate any of the provisions thereof. Major items may be deleted by Supplemental Agreements. The Contractor will be paid for all work done toward the completion of the item prior to such deletion as provided in paragraph 11.5.

Extra Work:

6.5 Whenever any additional work, including but not limited to additional materials, equipment or labor, is necessary for the proper completion of the Work, and such work was not included in the Bid Proposal nor subject to a Supplemental Agreement, such work must be authorized by a Change Order approved by the Owner and the Engineer. Prior to incorporation of any Modification to the Work, or the performance of extra work, OWNER must make appropriations in accordance with Colorado statutory requirements. Payment for such work shall be determined in the same manner as for Extra Work as specified in Paragraph 11.6.

When work is necessary to the proper completion of the Work for which no quantities or prices were given in the Bid Proposal, the same shall be called extra work and shall be performed by the Contractor when so authorized in writing by the Engineer and the Owner. Extra work shall be performed by the Contractor in accordance with the Contract Documents in a proper and workmanlike manner and as may be authorized by the Engineer and the Owner.

Prices for extra work shall be itemized and covered by a written Modification submitted by the Contractor and approved by the Owner and Engineer prior to the actual starting of such work. Should the parties be unable to agree on unit prices or a lump sum for the extra work, or if this method is impractical, the Engineer may instruct the Contractor to proceed with the work on the basis of the Cost of the Work as hereinafter provided in Paragraph 11.6. Claims for extra work not authorized in writing by the Engineer and the Owner prior to the work being done will be rejected.

Maintenance of Traffic:

6.6 Unless the Contract specifically provides for the closing to traffic of any local road or highway while the Work is in progress, such road or highway shall be kept open to all traffic by the Contractor. The Contractor shall also provide and maintain in a safe condition temporary approaches, crossings, or intersections with roads and highways. The Contractor shall bear all expense of maintaining traffic over the section of road affected by the Work to be done under this Agreement, and of constructing and maintaining such approaches, crossing, intersections and any necessary features without direct compensation, except as otherwise provided. Any encumbrances to normal traffic operations proposed by the Contractor shall require submission of a Traffic Control Plan for review and approval by the Owner, Engineer, and regulatory authority.

Removal and Disposal of Structures and Obstructions:

6.7 All structures or obstructions found on the site of the Work and shown on the Contract Drawings which are not to remain in place or which are not to be used in the new construction shall be removed to the satisfaction of the Engineer. Unless specified in the Bid Proposal, this Work will not be paid for separately but will be included in the price Bid for that portion of the Work requiring the removal of the obstruction. All material found on the site or removed therefrom shall remain the property of the Owner unless otherwise indicated.

Use of Materials Found on the Work:

6.8 The Contractor, with the approval of the Engineer, may use in the proposed Work any stone, sand, or gravel found on the site of the Work. The Contractor will not be paid for such excavation unless specifically stated in the Bid Proposal, and he shall replace with other suitable material, without compensation, all of that portion of the material so removed and used. If it was intended by the Engineer and indicated in the Contract Documents that any or all of the material so excavated and used was to have been wasted, then the Contractor will not be required to replace it. The Contractor shall not excavate outside of the proposed slope, grade lines, property or easement as indicated on the Contract Drawings, without prior approval by the Engineer.

Final Cleaning Up:

6.9 Upon completion of the Work and before acceptance and final payment will be made, the Contractor shall remove from the site of the Work all machinery, equipment, surplus, and discarded materials, rubbish, temporary structures, and stumps or portions of trees. He shall cut all brush and woods within the limits indicated and shall leave the site of the Work in a neat and presentable condition. Material cleared from the site of the Work and deposited on property adjacent, will not be considered as having been disposed of satisfactorily. The Contractor shall leave the site of the Work in a condition generally comparable to the original condition or as specified elsewhere in the Contract Documents.

END ARTICLE 6

ARTICLE 7

EXECUTION OF THE WORK

Authority of Engineer:

7.1 The Engineer shall decide any and all questions which may arise as to the quality and acceptability of the materials furnished, the quality of the Work performed, the general manner of performance and the rate of progress of the Work. He shall decide all questions which may arise as to the interpretation of the Contract Drawings, General Conditions, Supplemental Conditions, and Specifications, all questions as to acceptable fulfillment of the Agreement, all disputes and mutual rights by the Contractors, if there be more than one Contractor on the Work, and, with the approval of the Owner, all questions as to compensation. The decision of the Engineer shall be final and he shall have executive authority to make effective such decisions and to request the Contractor to carry out all orders promptly.

Drawings and Shop Drawings:

7.2 The Contract Drawings will show details of all structures; lines and grade of roadways and utility systems, typical cross-sections of roadways; character of foundation; location and designation of all structures; and the general arrangement of circuits and outlets, location of switches, panels and other Work.

Contract Drawings and Specifications are complementary each to the other, and what is called for by one shall be as binding as if called for by both. Data presented on the Contract Drawings are as accurate as planning can determine, but accuracy is not guaranteed and field verification of all dimensions, locations, levels, etc., to suit field conditions is directed. The Contractor shall review all structural and mechanical drawings and adjust all Work to conform to all conditions shown therein. The mechanical drawings shall take precedence over all other Drawings.

Discrepancies between different Contract Drawings, or between Contract Drawings and Specifications, or regulations and codes governing the Work shall be brought to the attention of the Engineer in writing as soon as said discrepancies are noticed. In the event such discrepancies exist and the Engineer is not so notified, the Engineer shall reserve the right to exercise sole authority in making final decisions in resolution of such a conflict. It is mutually agreed that all authorized alterations affecting the requirements and information given on the Contract Drawings shall be in writing and approved by the Engineer. When at any time reference is made to "The Drawings", the interpretation shall be the Contract Drawings as affected by all authorized modifications then in effect. Contract Drawings will be supplemented by such Shop Drawings to be prepared by Contractor as are necessary to adequately control the Work.

7.2.1 After checking and verifying all field measurements and approving of Shop Drawings, Contractor shall submit to Engineer for review, in accordance with the accepted schedule of Shop Drawing submissions (see Paragraph 2.28), five copies (unless otherwise specified in the Supplemental Conditions) of all Shop Drawings, which shall have been checked by and stamped with the approval of Contractor and identified as Engineer may require. The data shown on the Shop Drawings will be complete with respect to dimensions, design criteria, materials of construction and like information to enable Engineer to review the information as required.

7.2.2 At the time of each submission, Contractor shall in writing call Engineer's attention to any deviations that the Shop Drawings or samples may have from the requirements of the Contract Documents.

7.2.3 Engineer will review with reasonable promptness Shop Drawings and samples, but Engineer's review shall be only for conformance with the design concept of the Work and for compliance with the information given in the Contract Documents and shall not extend to means, methods, sequences, techniques or procedures of construction or to satisfy precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make any corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and resubmit new samples for Engineer's review. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals. Contractor's stamp of approval on any Shop Drawing or sample shall constitute a representation to Owner and Engineer that Contractor has either determined and verified all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data or assumes full responsibility for doing so, and that Contractor has reviewed or coordinated each Shop Drawing or sample with the

requirements of the Work and the Contracts Documents.

7.2.4 Where a Shop Drawing or sample is required by the Contract Documents, no related Work shall be commenced until the submittal has been reviewed and approved by the Engineer.

7.2.5 Engineer's review of Shop Drawings or samples shall not relieve Contractor from responsibility for any deviations from the Contract Documents unless Contractor has in writing called Engineer's attention to such deviation at the time of submission and Engineer has given written concurrence and approval to the specific deviation, nor shall any concurrence or approval by Engineer relieve Contractor from responsibility for errors or omissions in the Shop Drawings.

7.2.6 The cost of furnishing all shop drawings shall be borne by the Contractor. The Contractor will reimburse the Engineer for all associated costs if more than two review submittals are required for approval on any particular item.

Operating/Maintenance Manuals and Parts Lists:

7.3 The Contractor shall submit five (5) complete Operating/Maintenance Manuals and Parts Lists to the Engineer for all items of mechanical and electrical equipment incorporated into the Work, unless specified otherwise in the Supplementary Conditions or Specifications.

As-Built Drawings:

7.4 A set of Contract Drawings shall be maintained at the site of the Work, with all changes or deviations from the original drawings neatly marked thereon in brightly contrasting color. This shall be a separate set of drawings, not used for construction purposes, which shall be kept up to date as the job progresses and shall be made available for inspection by the Engineer at all times. Upon completion of the Agreement, this set of drawings shall be delivered to the Engineer.

Conformity with Drawings and Allowable Deviations:

7.5 Finished surfaces in all cases shall conform with lines, grade, cross- sections and dimensions shown on the Contract Drawings. Any deviation from the Contract Drawings, as may be required by the demands of construction, will in all cases be determined by the Engineer and authorized in writing.

Coordination of Drawings and Specifications:

7.6 The Contract Drawings and Specifications, and all supplementary drawings and documents, are essential parts of the Contract Documents, and a requirement occurring in one is just as binding as though occurring in all. They are intended to be cooperative to describe and provide for the complete Work. The Contractor shall not take advantage of any apparent error of omission in the Contract Drawings or Specifications. In the event the Contractor discovers any apparent conflict, error or discrepancy, he shall immediately call upon the Engineer for his interpretation and decision, and such decision shall be final. Any apparent error or discrepancy must be resolved before Contractor proceeds with the Work affected thereby.

7.6.1 In resolving such conflicts, errors and discrepancies, the Contract Documents shall be given preference in the following order (unless it would clearly be erroneous to do so): (1) Agreement; (2) Specifications ;(3)Drawings.

7.6.2 Within the Specifications the order of precedence is as follows: (1) Addenda; (2) Supplementary Conditions; (3) Instructions to Bidders; (4) General Conditions; (5) Technical Specifications.

7.6.3 With reference to the Drawings the order of precedence is as follows: (1) Figures govern over scaled dimensions; (2) Detail drawings govern over general drawings; (3) Change Order drawings govern over Contract Drawings; (4) Contract Drawings govern over standard drawings; (5) Contract drawings govern over shop drawings.

Cooperation of Contractor:

7.7 The Contractor shall have available on the Work at all times one (1) copy of said Contract Drawings and Specifications, exclusive of the set designated for As-Built Drawings in Paragraph 7.4. The Contractor shall give to the Work the constant attention necessary to facilitate the progress thereof, and he shall cooperate with the Engineer and with other contractors in every way possible. The Contractor shall have a competent Superintendent on the Work at all times who is fully authorized as his agent on the Work; such superintendent shall be capable of reading and thoroughly understanding the Contract Drawings and Specifications and shall receive and fulfill instructions, suggestions and communications from the Engineer, or his authorized representative. The Superintendent shall have full authority to execute the Work specified in the Contract Documents without delay and to promptly supply materials, tools, plant equipment and labor as may be required to perform such Work. Such Superintendent shall be furnished irrespective of the amount of Work sublet. Said Superintendent shall have authority to act on behalf of Contractor. All communications given to the Superintendent shall be as binding as if given to Contractor.

Construction Stakes:

7.8 Unless otherwise directed in Section 00800, Supplementary Conditions, the Contractor will furnish and set construction stakes establishing all lines, grades and measurements necessary for the proper execution of the Work contracted for under this Agreement. The Owner will provide basic horizontal and vertical control. If construction surveys are provided by the Owner, the Contractor shall request that Owner provide engineering surveys and placement of construction stakes no less than 48 hours prior to the time such service is needed. The Contractor shall satisfy himself as to the accuracy of all measurements before constructing any permanent structure and shall not take advantage of any errors which may have been made in laying out the Work. The Contractor shall be held responsible for the proper preservation of all marks and stakes. Stakes provided by the Owner, which must be reset after initial placement, will be replaced at Contractor's expense at the current billable rate for a three-person survey crew. Said cost may be deducted from any funds due the Contractor.

7.9 The Engineer shall be authorized to inspect Work done and material furnished. Such observation may extend to any part of the Work and to preparation, fabrication, or manufacture of the materials to be used. The Engineer is authorized to call the attention of the Contractor to any failure of the Work or materials to conform to the Contract Documents. He shall have the authority to reject materials or suspend the Work not conforming to Contract Documents until any questions at issue can be referred to and decided between the Engineer and the Owner. If the Contractor refuses to suspend operations on verbal order, the Engineer shall issue a written order giving the reason for suspension of the Work. After placing the order in the hands of the Contractor, the Engineer shall immediately leave the job. Work done during the absence of the Engineer will not be accepted nor paid for. The Engineer shall in no case act as foreman or perform other duties for the Contractor, nor interfere with the management of the Work by the latter. Any advice which the Engineer may give the Contractor shall in no way be construed as releasing the Contractor from fulfilling all of the terms of the Contract Documents.

Tests and Inspections:

7.10 Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests or approvals.

7.11 If any law, ordinance, rule, regulation, code, or order of any public body having jurisdiction requires any Work (or part thereof) to specifically be inspected, tested or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish Engineer the required certificates of inspection, testing or approval. Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with Owner's or Engineer's acceptance of a manufacturer, fabricator, supplier or distributor of materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for review prior to Contractor's purchase thereof for incorporation in the Work. The cost of all other inspections, tests and approvals required by the Contract Documents shall be paid by Owner (unless otherwise specified). In the event any tests do not pass initially, and therefore must be performed again, all such extra tests shall be paid for by Contractor.

7.12 All inspections, tests or approvals other than those required by law, ordinance, rule, regulation, code or order of any public body having jurisdiction shall be performed by organizations acceptable to Owner, Contractor, and Engineer.

7.13 If any Work that is to be inspected, tested or approved is concealed without concurrence of Engineer, it

must, if requested by Engineer, be exposed for observation. Such exposing shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to conceal such Work and Engineer has not acted with reasonable promptness in response to such notice.

7.14 Neither observations by Engineer nor inspecting, tests or approvals by others shall relieve Contractor of his obligations to perform the Work in accordance with the Contract Documents.

7.14.1 Any Work outside the normal five (5) day, forty (40) hour week may require that the Engineer be on the job. All inspection so required shall be done at the Contractor's expense at the Engineer's current billable rates and the cost thereof shall be deducted from any funds due Contractor. The Contractor shall notify the Engineer at least 48 hours in advance of starting any such overtime Work.

Uncovering Work:

7.15 If the Engineer requests it, the Contractor shall, at any time before acceptance of the Work, remove or expose such portions of the finished Work that was not observed by the Engineer or that the Engineer believes has not met the requirements set forth in the Contract Documents. After examination, the Contractor shall restore said portions of the Work to the requirements of the Contract Documents. Should the Work thus exposed, examined, or tested prove acceptable, the exposing, or removing, and the replacing of the concealment or making good of the parts removed, shall be paid for as Extra Work; but should the Work so exposed, examined, or tested prove unacceptable, the exposing or removing, and the replacing of the concealment or making good of the parts removed, shall be at the Contractor's expense.

Removal of Defective and Unauthorized Work:

7.16 All Work which has been rejected or condemned shall be repaired, or if it cannot be satisfactorily repaired, be removed and replaced at the Contractor's expense. Work done without lines and grades having been given, Work done beyond the lines and grades shown on the Contract Drawings, or as given, except as herein provided, Work done without proper inspection, or any extra or unclassified Work done without written authority and prior agreement in writing as to cost, will be done at the Contractor's risk and will be considered unauthorized and, at the option of the Engineer, may not be measured and paid for and may be ordered removed and replaced at the Contractor's expense. Upon the failure of the Contractor to repair satisfactorily or to remove and replace rejected, unauthorized, or condemned Work immediately after receiving formal notice from the Engineer, the Owner may recover for such defective Work on the Contractor's Bond or by action in a court having proper jurisdiction over such matters, or may employ labor and equipment and satisfactorily repair or remove and replace such Work and charge the cost of the same to the Contractor, which cost will be deducted from any money due him. In exercising his rights under this paragraph, Owner shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, Owner may exclude Contractor from all or part of the Work, take possession of all or part of the Work, and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Work and incorporated in the Work and all materials and equipment stored at the Work or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees such access to the Work as may be necessary to enable Owner to exercise his rights under this paragraph. All direct and indirect costs of Owner in exercising such rights shall be charged against Contractor in an amount verified by Engineer and agreed to by Owner, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Amount. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and all costs of repair and replacement of Work of others destroyed or damaged by correction, removal or replacement of Contractor's defective Work. Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by Owner of Owner's rights hereunder.

Disputed Claims for Extra Work:

7.17 In case the Contractor deems extra compensation is due him for Work not clearly covered in the Contract Documents, or not ordered by the Engineer, he must submit in writing of his intention to make claim for such extra compensation before he begins the Work on which he bases the claim and shall afford the Engineer every facility for keeping the actual cost of the Work. Failure on the part of the Contractor to give such notification or to afford the

Engineer proper facilities for keeping strict account of actual cost shall constitute a waiver of the claim for such extra compensation. The filing of such notice by the Contractor and keeping of costs by the Engineer shall not in any way be construed to prove the validity of the claim. When the Work has been completed, the Contractor shall within fifteen (15) days file his claim for extra compensation with the Engineer, who will present it to the Owner for consideration with his recommendations. Further written supporting data will be submitted to the Engineer within forty-five days of completion of the aforementioned Work unless Engineer allows an additional period of time to ascertain more accurate data. Owner and Engineer shall render a decision to Contractor within a reasonable period of time.

Visits to Site:

7.18 Engineer will make visits to the site at intervals appropriate to the various states of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

Engineer's efforts will be directed toward providing for the Owner a greater degree of confidence that the completed Work will conform to the Contract Documents.

On the basis of such visits and on-site observations as an experienced and qualified professional, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defects and deficiencies in the Work.

Rejecting Defective Work:

7.19 Engineer will have authority to reject Work which is defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 7.15, whether or not the Work is fabricated, installed or completed.

END ARTICLE 7

ARTICLE 8

CONTROL OF MATERIAL

Source of Supply and Quality of Materials:

8.1 The source of supply of each of the materials required shall be reviewed and accepted by the Engineer before delivery is started. Representative preliminary samples of the character and quality specified may be submitted by the Contractor or producer for examination and testing. The results obtained from testing such samples may be used for preliminary review but will not be used as a final acceptance of the materials. All materials proposed to be used may be inspected or tested at any time during their preparation and use. If, after testing, it is found that sources of supply which have been reviewed and accepted do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall furnish acceptable material from other sources acceptable to Engineer.

Acceptance of Materials:

8.2 Samples of all materials for test upon which is to be based the acceptance or rejection, shall be taken by the Engineer or his authorized representative at the discretion of the Engineer. Materials may be sampled either prior to shipment or after being received at the place of construction. All sampling, inspection, and testing shall be done in accordance with the methods hereinafter prescribed. The Contractor shall provide such facilities as the Engineer or his representative may require for conducting field tests and for collecting and forwarding samples. The Contractor shall not use or incorporate into the Work any materials represented by the samples until tests have been made and the material found to be acceptable. Only materials conforming to the requirements of these Contract Documents and which have been accepted by the Engineer or his authorized agents shall be used in the Work. Any material which, after acceptance, has for any reason become unfit for use shall not be incorporated into the Work. Additionally, Contractor and Engineer shall be subject to the procedures and responsibilities set forth in paragraphs 7.2.2 through 7.2.5 as they pertain to samples.

Cited Specifications, Samples and Tests:

8.3 Except, as otherwise provided, sampling and testing of all materials, and the laboratory methods and testing equipment required under these Contract Documents, shall be in accordance with the most current edition of the standards set forth in the Technical Specifications. The testing of all samples shall be done at the expense of the Contractor at an independent laboratory accepted by the Engineer. The Contractor shall furnish the required samples without charge. All samples shall have been checked and stamped with the approval of the Contractor, identified clearly as to material, manufacturer, any pertinent catalog numbers and the use for which intended. The Contractor shall give sufficient notification to the Engineer of the placing of orders for materials to permit testing.

Storage:

8.4 Materials shall be stored so as to insure the preservation of their quality and fitness for the Work. When considered necessary by the Engineer, they shall be placed on wooden platforms, or other hard, clean surfaces and not on the ground, and shall be placed under cover or otherwise protected when requested by the Engineer. Stored materials shall be located so as to facilitate prompt inspection.

Substitution of Materials and Equipment:

8.5 Whenever materials or equipment are specified or described in the Contract Drawings or Specifications by using the name of a proprietary item or the name of a particular manufacturer, fabricator, supplier or distributor, only such specific items may be used unless the name is followed by words indicating that an equal may be used. If the Contractor desires to use a substitute, the procedure for review by Engineer will be as set forth in paragraphs 8.5.1 and 8.5.2 below, and as supplemented in the Supplementary Conditions.

8.5.1 Requests for review of substitute items of material and equipment will not be accepted by Engineer from anyone other than Contractor. If Contractor wishes to furnish or use a substitute item of material or equipment, Contractor shall make written application to Engineer for acceptance thereof, certifying that the proposed substitute

will perform adequately the functions called for by the general design, be similar and of equal substance to that specified and be suited to the same use and capable of performing the same function as that specified. The application will state whether or not acceptance of the substitute for use in the Work will require a change in the Contract Drawings or Specifications to adapt the design to the substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of a license fee or royalty. All variations of the proposed substitute from that specified shall be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by Engineer in evaluating the proposed substitute. Engineer may require Contractor to furnish at Contractor's expense additional data about the proposed substitute. Engineer will be the sole judge of acceptability, and no substitute will be ordered or installed without Engineer's prior written acceptance. Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

8.5.2 Engineer will record time required by Engineer and Engineer's consultants in evaluating substitutions proposed by Contractor and in making changes in the Contract Drawings or Specifications occasioned thereby. Whether or not Engineer accepts a proposed substitute, Contractor shall reimburse Owner for the charges of Engineer and Engineer's consultants for evaluating any proposed substitute.

8.5.3 In case of a difference in price, the Owner shall receive all benefit of the difference for any substitutions, and the Contract Amount shall be altered by Change Order to credit the Owner with any savings so obtained.

Defective Materials:

8.6 All materials not conforming to the requirements of the Contract Drawings or Specifications shall be considered defective. Whether in place or not, such material shall be removed immediately from the site of the Work, unless otherwise permitted by the Engineer. No rejected material, the defects of which have been subsequently corrected, shall be used until approval has been given. Upon failure of the Contractor to comply promptly with any order of the Engineer made under the provisions of this article, the Engineer shall have authority to remove defective materials and to deduct the cost of removal and replacement with specified materials from any moneys due or to become due the Contractor.

END ARTICLE 8

ARTICLE 9

LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

Laws to be Observed:

9.1 The Contractor is assumed to be familiar with all federal, state and local laws, codes, ordinances, and regulations which, in any manner, affect those engaged or employed in the Work or the material or equipment used in or upon the site of the Work, or in any way affect the conduct of the Work. No pleas of misunderstanding or ignorance on the part of the Contractor will, in any way, serve to modify the provisions of the Agreement. However, if Contractor observes that the Contract Drawings or Specifications are at variance with any relevant federal, state and local laws, codes, ordinances, and regulations, Contractor shall give Engineer prompt written notice thereof and any necessary changes shall be adjusted by an appropriate written Modification. The Contractor, at all times, shall observe and comply with all federal, state and local laws, codes, ordinances, and regulations in any manner affecting the conduct of the Work, and the Contractor and his Surety shall indemnify and save harmless the Owner, the Engineer and their consultants, agents and employees, against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by himself or his employees.

Permits and Licenses:

9.2 Unless otherwise provided in the Supplementary Conditions, the Contractor shall procure all permits and licenses, pay all charges and fees including, but not limited to, all inspection charges of agencies having appropriate jurisdiction, and give all notices necessary and incidental to the due and lawful prosecution of the Work. Owner and Engineer shall assist Contractor, when necessary, in obtaining such permits and licenses. A copy of all permits and licenses procured by Contractor shall be supplied to Engineer within a reasonable period of time.

Taxes:

9.3 If Owner is a municipal corporation or a quasi-municipal corporation, Owner is eligible for sales, consumer, and use tax exemption. If the Agreement is intended to be awarded under appropriate exemption procedures and sales, consumer or use tax should not be included in the Bid Price.

Patented Devices, Materials and Processes:

9.4 If the Contractor is required or desires to use any design, device, invention, product, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or patent owner and shall pay all license fees and royalties and assume all costs incident to said use in performance of the Work or incorporation of the Work. The Contractor and the surety shall indemnify and save harmless the Owner and Engineer from any and all claims for infringement by reason of the use of any such patented design, device, invention, product, material, or process or any trademark or copyright in connection with the Work agreed to be performed under this Agreement, and shall indemnify the Owner and Engineer for any costs, expense, and damages, including attorney's fees, which it may be obliged to pay for reason of any such infringement at any time during the prosecution, or after the completion of the Work.

Sanitary Provisions:

9.5 The Contractor shall provide and maintain in a neat, sanitary condition such accommodations for the use of his employees as may be necessary to comply with the requirements and regulations of the State Department of Health or of other authorities having jurisdiction thereover.

Safety and Protection:

9.6 Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

9.6.1 All employees on the Work and other persons, who may be affected thereby,

9.6.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site of the Work, and

9.6.3 Other property at the site of the Work or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of performing the Work.

Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and utilities when prosecution of the Work may affect them. All damage, injury or loss to any property referred to in paragraph 9.6.2 or 9.6.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Contract Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor). Contractor's duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and final payment has been made.

9.6.4 The Contractor shall be required to assume sole and complete responsibility for conditions at the site of the Work during the course of performing the Work, including the safety of all persons who may enter on to the site of the Work for any reason and the security of all property located on the site of the Work. The Contractor shall also be responsible for compliance with all applicable Federal, State and local regulations concerning the safety and security of the site of the Work. This requirement shall apply at all times during the course of the Agreement and not only to normal working hours.

9.7 The Contractor shall not close any road to the public except by express permission of the appropriate regulating authority. When the road under construction is being used by the traveling public, special attention shall be exercised to keeping both the subgrade and surfacing in such condition that the public can travel over same in comfort and safety. The Contractor shall cooperate with the appropriate authority in the regulation of traffic. If the Contractor constructs temporary bridges or temporary stream crossings, his responsibility for accidents or mishaps shall include the roadway approaches as well as the structures of such crossings.

9.8 Contractor shall designate a responsible member of his organization at the site of the Work whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated in writing by Contractor to Owner.

Emergencies:

9.9 In emergencies affecting the safety or protection of persons or the Work or property at the site of the Work or adjacent thereto, Contractor, without special instruction or authorization from Engineer or Owner, is obligated to act to prevent threatened damage, injury or loss. Contractor shall give Engineer prompt written notice of any significant changes in the Work or deviations from the Contract Documents caused thereby.

Barricades, Signs and Hazard Markings:

9.10 The Contractor shall provide, erect and maintain all necessary barricades, signs, danger signals and lights to protect the Work and the safety of the public. Contractor shall comply with the provisions of any and all applicable Traffic Safety Manuals which may be published by a governmental entity having jurisdiction over the site of the Work. All barricades, signs and obstructions erected by the Contractor shall be illuminated at night and all devices for this purpose shall be kept burning from sunset to sunrise. The Contractor shall be held responsible for all damage to the Work due to failure of barricades, signs, lights and watchmen to protect it, and whenever evidence of such damage is found prior to acceptance, the Engineer may order the damaged portion immediately removed and replaced by the Contractor without cost to the Owner if, in his opinion, such action is justified. The Contractor's responsibility for necessary barricades, signs and lights shall not cease until the Work has been accepted.

Use of Explosives:

9.11 When the use of explosives is necessary for the prosecution of the Work, the Contractor shall use the utmost care so as not to endanger life or property, and whenever directed, the number and size of the charges shall be reduced. The Contractor shall notify the proper representatives of any public service corporation, any company, or any individual, at least 48 hours in advance of any blasting which may damage his or their property on, along, or adjacent to the site of the Work. All explosives shall be stored in a secure manner and all storage places shall be marked clearly "DANGEROUS EXPLOSIVES", and shall be in care of competent watchmen at all times. Prior to the use or storage of explosives on the site of the Work the Contractor shall submit for review by the Owner, Engineer and other jurisdictional authority a "Blasting Plan" identifying all relevant procedures proposed to be utilized as may be required for review.

Protection and Restoration of Property:

9.12 The Contractor shall not enter upon private property for any purpose without first obtaining permission, and he shall be responsible for the preservation of all public and private property, trees, fences, monuments, underground structures, etc., on and adjacent to the site of the Work and shall use every precaution necessary to prevent damage or injury thereto. He shall protect carefully, from disturbance or damage, all land monuments and property marks until an authorized agent has witnessed or otherwise referenced their location, and shall not remove them until directed. He shall be responsible for all damage or injury to property of any character resulting from any act, omission, neglect or misconduct in his or any subcontractor's manner, or method of executing said Work, or due to his or any subcontractor's non-execution of said Work, or at any time due to defective Work or materials, and said responsibility shall not be released until the Work has been completed and accepted. The Contractor's attention is directed to the importance of protecting all public utilities encountered in the execution of the Work. These may include telephone, telegraph and power lines, water lines, sewer lines, gas lines, railroad tracks, and other overhead and underground utilities. Before any excavation is begun in the vicinity of water lines, railroad tracks or structures, sewer lines, gas lines, or telephone conduits, each utility company concerned must be notified in advance of such excavation, and such excavation shall not be made until an authorized representative of the utility company concerned is on the site of the Work and has designated the location of their facilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the Work, or in consequence of the non-execution thereof on the part of the Contractor or subcontractor, Contractor shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done by repairing, rebuilding, or otherwise restoring, as may be directed, or he shall make good such damage or injury in an acceptable manner. In case of the failure on the part of the Contractor to restore such property or to have started action to make good such damage or injury, the Engineer may, upon forty-eight (48) hours' notice, proceed to direct the repair, rebuilding of or otherwise restore such property as may be deemed necessary and the cost thereof will be deducted from any moneys due or which may become due the Contractor under the Contract Documents. The cost of damages due to Contractor's operation or cost of protecting utilities where required to permit construction under the Contract Documents shall be included in the original Contract Amount for the Work.

Responsibility for Damage Claims:

9.13 To the fullest extent permitted by law, the Contractor and his Surety shall indemnify and save harmless the Owner and Engineer and all of their officers, agents and employees from all suits, actions, or claims of any character brought on account of any injuries or damages sustained by any person or property in consequence of any neglect in safeguarding the Work, or through the use of unacceptable materials in the execution of the Work, or on account of any act or omission by the said Contractor, Subcontractor, their agents and employees, or on account of the use, misuse, storage or handling of explosives, or on account of any claims or amounts recovered for any infringement of patent, trademark, or copyright, or from any claims or amounts arising or recovered under the state's Compensation laws, or any other law, by-law, ordinance, order or decree, and so much of the money due the said Contractor by virtue of the Contract Documents, as shall be considered necessary by the Owner, may be retained or, in case no money is due, his Surety shall be held until such suit or suits, action or actions, claim or claims, for injuries or damages as aforesaid, shall have been settled and satisfactory evidence to that effect furnished to the Owner.

Contractor's Responsibility for the Work:

9.14 Until the final acceptance of the Work by the Engineer as evidenced in writing, the Contractor shall have the charge and care thereof and shall take every necessary precaution against injury or damage to any part thereof by the action of the elements or from any other cause, and the Contractor at his own expense shall rebuild, repair, restore, and make good all injuries or damages to any portion of the Work occasioned by any causes before its completion and acceptance. In case of suspension of Work for any cause whatever, the Contractor shall be responsible for all materials and shall properly store them, if necessary, and shall provide suitable drainage, barricades and warning signs where necessary. The Contractor shall make good or replace at his own expense and as required, any material which may be broken, lost through fire, theft, or otherwise damaged, or in any way made useless for the purpose and use intended by these Contract Drawings and Specifications prior to final payment for the Work even though such breakage, damage, loss or uselessness may result from causes beyond the control of the Contractor.

No Waiver of Legal Rights:

9.15 Inspection by the Engineer or by any of his duly authorized representatives; any order, measurement or certificate by the Engineer; any order by the Owner for the payment of money, any payment for or acceptance of any Work or any extension of time; or any possession taken by the Owner shall not operate as a waiver of and provision of the Contract Documents, or any power therein provided, or any waiver of any other or subsequent breach. The Owner reserves the right to correct any error that may be discovered in any estimate that may have been paid, and to adjust the same to meet the requirements of the Contract Documents. The Owner reserves the right to claim and recover, by process of law, sums as may be sufficient to correct any error or make good any deficit in the Work resulting from such error, dishonesty, or collusion upon conclusive proof of collusion or dishonesty between the Contractor or his agents and any person including the Engineer or his assistants discovered in the Work after the final payment has been made.

Limitation of Responsibility:

9.16 Owner or Engineer will not be responsible for Contractor's means, methods, techniques, sequences or procedures in performing the Work, or the safety precautions and programs incident thereto, and Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.17 Owner or Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractors, or of the agents or employees of any Contractor or Subcontractor, or of any other persons at the site of the Work or otherwise performing any of the Work.

9.18 Neither Owner's or Engineer's authority to act under the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of Engineer to Contractor, any Subcontractor, any manufacturer, fabricator, supplier or distributor, or any of their agents or employees or any other person performing any of the Work.

Rights-of-Way:

9.19 The Owner will furnish all lands and rights-of-way required for completion of the Work. In acquiring right-of-way, the Owner will proceed as expeditiously as possible, but in the event all rights-of-way or easements are not acquired prior to the commencement of the Work the Contractor shall begin work on such lands and rights-of-way that have been acquired. In the event of litigation or other delays in acquiring right-of-way, the Contract Time allowed herein for completion will be extended to compensate for the time actually lost by such delay. If the Owner is solely responsible for such delay, the Contractor shall be entitled to an adjustment to the Contract Amount as negotiated with the Owner.

Use of Premises:

9.20 Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workmen to areas permitted by law, ordinances, permits or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

END ARTICLE 9

ARTICLE 10

PROSECUTION AND PROGRESS

Supervision:

10.1 Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures utilized in the performance of the Work, but Contractor shall not be solely responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. Contractor shall be responsible to see that the finished Work complies accurately with the Contract Documents.

Concerning Subcontractors:

10.2 Contractor shall only employ subcontractors in accordance with the provisions set forth below:

10.2.1 Contractor shall not employ any Subcontractor or other person or organization (including those who are to furnish the principal items of materials or equipment), whether initially or as a substitute, against whom Owner or Engineer may have reasonable objection. A Subcontractor or other person or organization identified in writing to Owner and Engineer by Contractor prior to the Notice of Award and not objected to in writing by Owner or Engineer prior to the Notice of Award will be deemed acceptable to Owner and Engineer. Acceptance of any Subcontractor, other person or organization by Owner or Engineer shall not constitute a waiver of any right of Owner or Engineer to reject defective Work. If Owner or Engineer after due investigation has reasonable objection to any Subcontractor, other person or organization proposed by Contractor after the Notice of Award, Contractor shall submit an acceptable substitute and the Contract Amount shall be increased or decreased by the difference in cost occasioned by such substitution, and an appropriate Change Order shall be issued. Contractor shall not be required to employ any Subcontractor, other person or organization against whom Contractor has reasonable objection.

10.2.2 Contractor shall be fully responsible for all acts and omissions of his Subcontractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that Contractor is responsible for the acts and omissions of persons directly employed by Contractor. Nothing in the Contract Documents shall create any contractual relationship between Owner or Engineer and any Subcontractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of Owner or Engineer to pay or to see to the payment of any monies due any Subcontractor or other person or organization, except as may otherwise be required by law. Owner or Engineer may furnish to any Subcontractor or other person or organization, to the extent practicable, evidence of amounts paid to Contractor on account of specific Work done.

10.2.3 The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or delineating the Work to be performed by any specific trade unless specifically required in said divisions and sections.

10.2.4 All Work performed for Contractor by a Subcontractor will be pursuant to an appropriate agreement between Contractor and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Contractor shall pay each Subcontractor a just share of any insurance monies received by Contractor on account of losses under policies issued pursuant to Article 5.

Prosecution of Work:

10.3 The Contractor shall notify the Engineer at least forty-eight (48) hours in advance of the time he intends to start Work. The Contractor shall operate at such points as the Owner through the Engineer may direct. The Contractor shall conduct the Work in such a manner and with sufficient materials, equipment, and labor as is considered necessary to insure its completion within the Contract Time limit set forth in the Agreement. Should the prosecution of Work for any reason be discontinued by the Contractor, he shall notify the Engineer at least

forty-eight (48) hours in advance of resuming operations.

Limitations of Operations:

10.4 The Contractor shall at all times conduct the Work in such manner as will incur the least practicable interference with traffic and existing utility systems. No section of any road shall be closed to the public, nor any utility system put out of service except after permission has been granted by the representative Authority having jurisdiction. Each item of Work shall be prosecuted to completion without delay and in no instance will the Contractor be permitted to transfer his forces from uncompleted Work to new Work without prior written notification of the Contractor to the Engineer. The Contractor shall not open up Work to the prejudice of Work already started.

Schedules:

10.5 At least ten (10) days prior to submitting the first application for a progress payment, Contractor shall (except as otherwise specified in the Supplementary Conditions) submit to Engineer an initial progress schedule, a final schedule of Shop Drawing submission and where applicable a schedule of values of the Work. These schedules shall be satisfactory in form and substance to Engineer. These schedules shall serve as the basis for progress payments during prosecution of the Work. Upon acceptance of the schedule of values by Engineer, it shall be incorporated into a form of Application for Payment acceptable to Owner and Engineer. The Contractor shall also forward to the Engineer as soon as practicable after the first day of each month, a progress schedule, a summary report of the progress of the various parts of the Work under the Contract Documents in the mills or shops and in the field, stating the existing status rate of progress, estimated time of completion and cause of delay, if any.

Character of Personnel and Equipment:

10.6 The Contractor shall employ such superintendents, foremen, as are careful and competent, and the Engineer may request the dismissal of any person or persons employed by the Contractor in, about, or upon the Work who shall misconduct himself or be incompetent or negligent in the proper performance of his or their duties, or neglects or refuses to comply with the Contract Documents given and such person or persons shall not be employed again thereon without the written consent of the Engineer. Should the Contractor continue to employ, or again employ, such person or persons, the Owner may withhold all pay estimates which are or may become due, or the Owner through the Engineer may suspend the Work until such orders are complied with. No preference or discrimination among citizens of the United States shall be made, except as may be required by special labor provisions. The Contractor shall furnish such equipment as is considered necessary for the prosecution of the Work in an acceptable manner and at a satisfactory rate of progress. All equipment, tools, and machinery used for handling materials and executing any part of the Work shall be subject to the approval of the Engineer and shall be maintained in a satisfactory working condition. Equipment used on any portion of the Work shall be such that no damage to the Work, roadways, adjacent property, or other objects will result from its use. The Agreement may be terminated if the Contractor fails to provide adequate equipment for the Work.

10.6.1 All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier or distributor, except as otherwise provided in the Contract Documents.

Temporary Suspension of Work:

10.7 The Engineer, in consultation with Owner when time permits, shall have the authority to suspend the Work wholly or in part because of unfavorable weather or other essential conditions, or because of the failure on the part of the Contractor to properly prosecute the Work in accordance with the Contract Documents, to carry out orders or to remove defective material incorporated into the Work. The Contractor shall not suspend the Work without written authority and prior to resuming Work shall give the Engineer adequate notice to afford opportunity to re-establish observation and inspection of Work being performed.

Determination and Extension of Contract Time for Completion:

10.8 The Contractor shall perform fully, entirely, and in a satisfactory and acceptable manner the Work within the number of calendar days stipulated in the Agreement. Time will be assessed against the Contractor in accordance with the Agreement. If the satisfactory execution and completion of the Agreement shall require Work or materials in greater amounts or quantities than those set forth in the Contract Documents, then the Contract Time may be increased as negotiated between Contractor and Engineer and accepted by Owner as set forth in a written Modification. In general, extensions to the Contract Time will not be approved, regardless of cause of claim for extension.

No allowances will be made for delays or suspensions of the prosecution of the Work due to the fault of the Contractor. In order to secure an extension of the Contract Time by written Modification to the Contract Documents, the Contractor shall within ten (10) days from the beginning of any such Modification notify the Engineer in writing of the causes for request to adjust the Contract Time, whereupon the Engineer shall ascertain the facts and the extent of the Modification and extend the Contract Time for completing the Work in an amount equal to the additional time required due to said Modification when, in his judgment, the findings of fact justify such an extension of time, and his finding of fact thereon shall be final and conclusive. The Contract Time may only be changed by a written Modification.

Failure to Complete Work on Time:

10.9 In case the Contractor shall fail to fully perform and complete the Work in conformity to the provisions and conditions of the Agreement within the specified Contract Time limit for such performance and completion or within such further time as, in accordance with the provisions of the Contract Documents, shall be fixed or allowed for such performance and completion, the Contractor shall and will pay to the Owner for each and every day of the additional time in excess of the Contract Time and any granted extension thereof, the sum set forth in Section 4 of the Agreement as liquidated damages and not as a penalty. The parties agree that Owner will suffer loss and damage; however, due to the uncertainty and difficulty of measuring actual damages for every day the Work remains uncompleted and unfinished, the parties agree that said sum is a reasonable forecast of compensatory damages. The Owner shall recover said damages by deducting the amount thereof out of any moneys which may be due or become due the Contractor, or by an action at law against the Contractor or his Surety, or by either or both of these methods. Should the entire completion and final acceptance of the Work herein embraced, together with any modifications or additions, be delayed beyond the Contract Time, it is understood and agreed that aside from any other penalty or damage, all costs of the engineering, observation and inspection on behalf of the Owner which are incurred after the Contract Time has elapsed may be charged to the Contractor and be deducted from any estimate or payment otherwise due and payable to him.

Adjustment for Suspended Work:

10.10 In the event the Contractor is ordered by the Engineer, in writing, to suspend Work for some unforeseen cause not provided for in the Contract Documents, and over which the Contractor has no control, the Contractor may be reimbursed for actual money expended on the Work during the period of shutdown. No allowance will be made for anticipated profits. The period of shutdown shall be computed from the date set out in the written order for Work to cease until the date of the order for Work to resume. Claims for such compensation shall be filed with the Engineer within ten (10) days after date of the order to resume Work or such claims will not be considered. The Contractor shall submit with his claims, substantiating papers covering the entire amount shown on the claim. After receiving relevant information from the Engineer, the Owner shall take the claim under consideration, and may make such investigations as are deemed necessary, and shall be the sole judge as to the equitability of such claim and such decision shall be final. No provision of this article shall be construed as entitling the Contractor to compensation for delays due to inclement weather, delays due to failure of Surety, for suspensions made at the request of the Contractor, or for any other delay provided for in the Contract Documents.

Termination of Contract:

10.11 The Agreement, of which these Contract Documents form a part, may be terminated by the Owner for the following reasons: (a) Failure of the Contractor to start the Work on the date given in the Notice to Proceed; (b) Substantial evidence that progress being made by the Contractor is insufficient to complete the Work within the

Contract Time; (c) Deliberate failure on the part of the Contractor to observe any requirement of the Contract Documents; (d) Failure of the Contractor to promptly make good any defects in materials or Work or any defects of any other nature, the correction of which has been directed in writing by the Engineer; (e) Substantial evidence of collusion for the purpose of illegally procuring an Agreement or perpetrating fraud on the Owner in the performance of Work under the Agreement; (f) If the Contractor is adjudged bankrupt or becomes insolvent; (g) If the Contractor shall allow any final judgment to stand against him unsatisfied for a period of ten (10) days; (h) If the Contractor makes an assignment for the benefit of creditors; (i) If a trustee or receiver is appointed for Contractor or for any of Contractor's property; (j) If Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws; (k) If Contractor repeatedly fails to supply sufficient skilled workmen or suitable materials or equipment; (l) If Contractor repeatedly fails to make prompt payments to Subcontractors for labor, materials or equipment; (m) If Contractor disregards laws, ordinances, rules, regulations or orders of any public body having jurisdiction; (n) If Contractor disregards the authority of Engineer; or (o) If Contractor otherwise violates in any substantial way any provisions of the Contract Documents. Before the Agreement is terminated, the Contractor and his Surety will first be notified in writing by the Engineer of the conditions which make termination of the Agreement imminent. Seven (7) days after this notice is given, if a satisfactory effort has not been made by the Contractor or his Surety to correct the conditions, the Owner may declare the Agreement terminated and notify the Contractor and his Surety accordingly. Upon receipt of notice from the Owner that the Agreement has been terminated, the Contractor shall immediately discontinue all operations. The Owner may then proceed with the Work in any lawful manner that he may elect until it is finally completed. Owner may exclude Contractor from the site of the Work and take possession of the Work and of all Contractor's tools, appliances, construction equipment and machinery at the site of the Work and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the site of the Work or for which Owner has paid Contractor but which are stored elsewhere, and finish the Work as Owner may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Amount exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to Owner. Such costs incurred by Owner shall be verified by Engineer and incorporated in a Change Order, but in finishing the Work, Owner shall not be required to obtain the lowest figure for the Work performed.

10.12 Where Contractor's services have been so terminated by Owner, the termination shall not affect any rights of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.

10.13 Upon seven (7) days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, Contractor will use his best efforts to minimize additional cost being incurred under the Agreement. Contractor shall be paid for all Work executed prior to the termination date, all materials or equipment ordered prior to the date of the notice of termination which cannot be canceled or, at the option of the Owner, returned, and reasonable termination expenses.

Cooperation with Other Contractors:

10.14 In connection with the Work under this Agreement, the right is reserved to award any work not included in the Contract Documents to another Contractor for performance during the progress of this Agreement, or to perform such work with the Owner's forces, and the Contractor for this Agreement shall cooperate and so conduct his operations as to minimize the interference therewith, as directed by the Engineer.

Termination of Contractor's Responsibility:

10.15 This Agreement will be considered complete when all Work has been finished, the final inspection made and the Work finally accepted by the Engineer, all claims for payment of labor, materials, or services of any kind used in connection with the Work have been settled by the Contractor or his Surety and final payment has been made by Owner. The Contractor will then be released from further obligation except as set forth in the Surety Bonds. The Surety Bond executed from performance of this Agreement shall be in full effect for a period equal to the warranty correction period following the date of final payment. Neither the final payment nor any provision in

the Contract Documents shall relieve the Contractor of the responsibility for negligence or inadequate Workmanship within the warranty period as described in the Supplementary Conditions. Corrections during said warranty period shall be made in accordance with the provisions of paragraph 12.5.

END ARTICLE 10

ARTICLE 11

MEASUREMENT AND PAYMENT

Detailed Estimate:

11.1 At least ten (10) days prior to submitting the first Application for a progress payment, Contractor shall furnish to the Owner a detailed estimate and breakdown of his Bid for any lump sum item involving more than one item. This breakdown, when reviewed and accepted by the Engineer, shall be used as the basis for making partial payments to the Contractor.

Measurement of Quantities:

11.2 The determination of quantities of Work acceptably completed under the terms of the Agreement, will be made by the Engineer and based on measurements taken by him or his representative. These measurements will be taken according to the United States standard measure. All surface and linear measurements will be taken horizontally unless otherwise shown on the Contract Drawings or specified. Structures shall be measured as shown on the Contract Drawings. When base course, topsoil, surface course, or any materials are measured by the cubic yard in the vehicle, such measurement shall be taken at the point of delivery. The capacity of all vehicles shall be plainly marked on said vehicle and the capacity or marking shall not be changed without permission of the Engineer. The Engineer may require all vehicles to have uniform capacity.

Scope of Payment:

11.3 The Contractor shall accept the compensation, as herein provided, in full payment for furnishing all materials, equipment, labor, tools, and incidentals necessary to complete the Work and the required bonds and insurance policies; also for loss or damage arising from the nature of the Work, or from the action of the elements, or from any unforeseen difficulties which may be encountered during the prosecution of the Work until the final acceptance by the Engineer, and for all risks of every description connected with the prosecution of the Work, for all expenses incurred in consequence of the suspension or discontinuance of the Work as herein specified, and for any infringement of patent, trademark, or copyright; and for completing the Work according to the Contract Documents. Neither the payment of any estimate nor of any retained percentage shall relieve the Contractor of any obligations to make good any defective Work or material. No moneys, payable under the Agreement, or any part thereof, except the estimate for the first month or period, shall become due and payable if the Owner so elects, until the Contractor shall satisfy said Owner that he has fully settled or paid for all materials and equipment used in or upon the Work and labor done in connection therewith, and the Owner, if he so elects, may pay any or all such bills, wholly or in part, and deduct the amount or amounts so paid from any monthly or final estimate excepting the first estimate. In the event the Surety on any Performance or Payment Bond given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in the State revoked as provided by law, or in any manner becomes unacceptable to Owner, the Owner may, at its election, withhold payment of any estimate filed or approved by the Engineer until the Contractor shall give a good sufficient bond in lieu of the bond so executed by such Surety.

Payment for Increased or Decreased Quantities:

11.4 When alterations in the Contract Documents or quantities of Work not requiring Supplemental Agreements, as hereinbefore provided for, are ordered and performed, the Contractor shall accept payment in full at the Contract Amount for the actual quantities of Work done. No allowance will be made for anticipated profits. Increased or decreased Work involving Supplemental Agreements will be paid for as stipulated in such agreements.

Payment for Deleted Items:

11.5 As provided in paragraph 6.4, the Engineer shall have the right to cancel or alter the portions of the Agreement relating to the construction of any non-major item or items except that the Contractor shall be entitled to payment in a fair and equitable amount covering all items of cost incurred prior to the date of the cancellation or alteration. Such payment shall reflect the agreed upon unit prices or schedule of values for any work actually performed prior to the date of such cancellation or alteration. Any such cancellation or alteration shall be made by change order. No allowance will be made for anticipated profits in reimbursements to the Contractor for deleted

items of Work. Acceptable materials ordered by the Contractor or delivered to the Work prior to the date of cancellation, alteration, or suspension to the Work by order of the Engineer, will be paid for at the actual cost to the Contractor and shall thereupon become the property of the Owner. The Contractor shall immediately submit certified statements covering all money expended in preparation for any deleted item, and he shall be reimbursed for any money expended in preparation for any Work on any deleted item when such preparation has no value to the remaining items of the Agreement, or for a proportionate amount based on the total Contract Amount over which such preparation would ordinarily be distributed when other items are included in such preparation.

Extra Work:

11.6 Extra Work, for which no price is provided in the Bid Proposal, shall be covered by a Supplemental Agreement or Change Order to be signed by the Owner and Contractor before such Work is commenced. Extra Work will be paid for either at a lump sum, or unit prices agreed upon, or on the basis of the Cost of the Work as set forth in paragraphs 11.7 and 11.8 plus a contractor's fee for overhead and profit as set forth in paragraph 11.9. The Contractor shall make no claim for Work done on Cost of Work basis unless performed on written order and in accordance therewith. Work performed prior to a written order by the Engineer will not be paid for.

Cost of the Work:

11.7 The term "Cost of the Work" means the sum of all costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Work, shall include only the following items and shall not include any of the costs itemized in paragraph 11.8.

11.7.1 Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security, contributions, unemployment, excise and payroll taxes, Workers' or Workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Sunday or legal holidays, shall be included in the above to the extent authorized by Owner.

11.7.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and manufacturers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds, and all returns from sale of surplus materials and equipment, shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.

11.7.3 Payments made by Contractor to the Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive Bids from Subcontractors acceptable to Contractor and shall deliver such Bids to Owner who will then determine, with the advice of Engineer, which Bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as Contractor's Cost of the Work. All subcontractors shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.7.4 Costs of special consultants employed for services specifically related to the Work.

11.7.5 Supplemental costs including the following:

11.7.5.1 The proportion of necessary transportation, travel and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

11.7.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workmen, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of Contractor.

11.7.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof, all in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.7.5.4 Sales, use or similar taxes related to the Work, and for which Contractor is liable, imposed by any governmental authority; however, as set forth in paragraph 9.3, such taxes may not be applicable.

11.7.5.5 Deposits lost for causes other than Contractor's negligence, royalty payments and fees for permits and licenses.

11.7.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by Contractor in connection with the execution of the Work, provided they have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's Fee. If, however, any such loss or damage requires reconstruction and Contractor is placed in charge thereof, Contractor shall be paid for service a fee proportionate to that stated in paragraph 11.9.2.

11.7.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.7.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.7.5.9 Cost of premiums for additional Bonds and Insurance required because of changes in the Work.

11.8 The terms Cost of the Work shall not include any of the following:

11.8.1 Payroll costs and other compensation of Contractor's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, lawyers, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by Contractor whether at the site of the Work or in his principal or a branch office for general administration for the Work and not specifically included in the agreed upon schedule of job classifications referred to in subparagraph 11.7.1, all of which are to be considered administrative costs covered by the Contractor's Fee.

11.8.2 Expenses of Contractor's principal and branch offices other than Contractor's office at the site of the Work.

11.8.3 Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the work and charges against Contractor for delinquent payments.

11.8.4 Cost of premiums for all Bonds and for all Insurance whether or not Contractor is required by the Contract Documents to purchase and maintain the same (except for additional Bonds and insurance required because of changes in the Work).

11.8.5 Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

11.8.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.7. Contractor's Fee:

11.9 The Contractor's Fee allowed to Contractor for overhead and profit shall be determined as follows:

11.9.1 A mutually acceptable fixed fee; or if none can be agreed upon,

11.9.2 A fee based on the following percentages of the various portions of the Cost of the Work:

11.9.2.1 For costs incurred under paragraphs 11.7.1 and 11.7.2, the Contractor's Fee shall be ten percent.

11.9.2.2 For costs incurred under paragraph 11.7.3, the Contractor's Fee shall be five percent; and if a subcontract is on the basis of Cost of the Work Plus a Fee, the maximum allowable to the Subcontractor as a fee for overhead and profit shall be ten percent.

11.9.2.3 No fee shall be payable on the basis of costs itemized under paragraphs 11.7.4, 11.7.5 and 11.8.

11.10 The amount of credit to be allowed by Contractor to Owner for any such change which results in a net decrease in cost will be the amount of the actual net decrease. When both additions and credits are involved in any one change, the combined overhead and profit shall be figured on the basis of the net increase, if any.

Substantiation of Cost of Work:

11.11 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.7 and 11.8, Contractor will submit in form acceptable to Engineer an itemized cost breakdown together with supporting data.

Application for Progress Payment:

11.12 Contractor shall on a monthly basis submit to Engineer for review and approval an Application for Payment filled out and signed by Contractor covering the Work completed through the prior month interval and accompanied by such supporting documentation as is required by the Contract Documents and also as the Engineer may reasonably require. Materials purchased by the Contractor for the Work and located on the site of the Work may be included in the Contractor's invoice if they are itemized and if the Contractor provides evidence of payment for the materials; such materials are subject to the provisions of Paragraph 11.13. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

Contractor's Warranty of Title:

11.13 Contractor warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Work or not, will pass to Owner at the time of payment free and clear of all liens, claims, security interests and encumbrances (hereafter in the General Conditions referred to as "Liens").

Review of Applications for Progress Payment:

11.14 Engineer will, within five (5) days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Pay Request to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application. Owner shall, within thirty (30) days subsequent to presentation to him of the Application for Payment with Engineer's recommendation, pay Contractor the amount recommended.

11.14.1 Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's on-site observation of the Work in progress as an experienced and qualified professional and on Engineer's review of the Application for Payment and the accompanying data and schedules that the Work has progressed to the point indicated; that, to the best of Engineer's knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work being functional upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents and any qualifications stated in the recommendation), and that Contractor is

entitled to payment of the amount recommended. However, by recommending any such payment, Engineer will not thereby be deemed to have represented that exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work, or that the means, methods, techniques, sequences, and procedures of construction have been reviewed or that any examination has been made to ascertain how or for what purpose Contractor has used the monies paid or to be paid to Contractor on account of the Contract Amount, or that title to any Work, materials or equipment has passed to Owner free and clear of any Liens.

11.14.2 Engineer's recommendation of final payment will constitute an additional representation by Engineer to Owner that the conditions precedent to Contractor's being entitled to final payment as set forth in Paragraph 11.19 have been fulfilled to the best of Engineer's knowledge.

11.15 Engineer may refuse to recommend the whole or any part of any payment if, in his opinion, it would be incorrect to make such representations to Owner. He may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

11.15.1 The Work is defective, or completed Work has been damaged requiring correction or replacement.

11.15.2 Written claims have been made against Owner or Liens have been filed in connection with the Work.

11.15.3 The Contract Amount has been reduced because of Modifications.

11.15.4 Owner has been required to correct defective Work or complete the Work in accordance with paragraph 8.6.

11.15.5 Contractor's failure to make payment to Subcontractors, or for labor, materials or equipment.

Partial Payments:

11.16 No progress payment except final payment will be made for a sum of less than \$1,000.00. The estimates will be approximate only, and all partial or monthly estimates and payments shall be subject to correction in the estimate rendered following discovery of an error in any previous estimates. Should any defective Work or material be discovered, or should a reasonable doubt arise as to the integrity of any part of the Work completed previous to the final payment, there will be deducted from the first estimate rendered after the discovery of such Work an amount equal in value to the defective or questioned work, and this Work will not be included in a subsequent estimate until the defects have been remedied or the causes for doubt removed.

Final Inspection:

11.17 Upon written notice from Contractor that the Work is complete, Engineer will make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to remedy such deficiencies.

Final Application for Payment:

11.18 After Contractor has completed all such corrections to the satisfaction of Engineer and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents and other documents, all as required by the Contract Documents, and after Engineer has indicated that the Work is acceptable, Contractor may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents and such other data and schedules as Engineer may reasonably require, together with complete and legally effective releases or waivers (satisfactory to Owner) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by Owner, Contractor may furnish receipts or releases in full; and

affidavit of Contractor that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or his property might in any way be responsible, have been paid or otherwise satisfied; and consent of the Surety, if any, to final payment. If any Subcontractor, manufacturer, fabricator, supplier or distributor fails to furnish a release or receipt in full, Contractor may furnish a Bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

Final Payment and Acceptance:

11.19 If on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor has fulfilled all of his obligations under the Contract Documents, Engineer will, within five (5) days after receipt of the final Application for Payment, indicate in writing his recommendation of payment and present the Application to Owner for payment. Thereupon Engineer will give written notice to Owner and Contractor that to the best of Engineer's knowledge the Work is acceptable subject to continuing obligations under the Contract Documents. Otherwise, Engineer will return the Application to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application. All prior partial estimates and progress payments shall be subject to correction in the final estimate and payment. If the Application and accompanying documentation are appropriate as to form and substance, and acceptable to Owner, Owner shall, within thirty (30) days after receipt thereof, cause publication to commence of Notice of Final Settlement in accordance with Owner's statutory requirements.

In the event no claims are made against Contractor in response to said publication, Owner shall pay Contractor the amount of final payment recommended by the Engineer in accordance with the Notice of Final Settlement. In the event claim(s) are made against Contractor, Owner shall withhold double the amount of any asserted claim(s) against Contractor until said claims have been resolved; however, Owner shall pay Contractor the balance of the final payment. The acceptance by the Contractor of the final payment shall operate as and shall be a release to the Owner from all claims or liability arising from the prosecution of the Work under the Contract.

Contractor's Continuing Obligation:

11.20 Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by Engineer, nor any payment by Owner to Contractor under the Contract Documents, nor any use or occupancy of the Work or any part thereof by Owner, nor any act of acceptance by Owner nor any failure to do so, nor the issuance of a notice of acceptability by Engineer pursuant to Paragraph 11.19, nor any correction of defective Work by Owner shall constitute an acceptance of Work not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents.

Change of Contract Amount:

11.21 The Contract Amount may only be changed by written Modification. When Contractor and Owner agree upon a price for extra or changed Work by way of a written Modification, Contractor and Owner agree that the price set forth in the Modification shall include the cost of the extra or change plus any direct, indirect, and impacted costs attributable to the change or extra. Prior to incorporation of any Change Order into the Work, or the performance of Extra Work, OWNER must make appropriations for any increase to the Contract Amount in accordance with Colorado statutory requirements.

END ARTICLE 11

ARTICLE 12

WARRANTY AND GUARANTEE; ACCESS TO WORK; CONTINUATION OF WORK; PARTIAL UTILIZATION

Warranty and Guarantee:

12.1 Contractor warrants and guarantees to Owner and Engineer that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to Contractor. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in the Contract Documents.

Access to Work:

12.2 Engineer and Engineer's representatives, other representatives of Owner, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspection and testing. Contractor shall provide proper and safe conditions for such access.

Continuing the Work:

12.3 Contractor shall carry on the Work and maintain the progress schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as Contractor and Owner may otherwise agree to in writing.

Partial Utilization:

12.4 Use by Owner of completed portions of the Work may be accomplished prior to Completion of all the Work subject to the following:

12.4.1 Owner at any time may request Contractor in writing to permit Owner to use any part of the Work which Owner believes to be substantially complete and which may be so used without significant interference with execution of the other parts of the Work. If Contractor agrees, Contractor will certify to Owner and Engineer that said part of the Work is substantially complete. Within a reasonable time thereafter, Owner, Contractor and Engineer shall make an inspection of that part of the Work to determine its status of completion. Prior to Owner's use, Engineer will deliver to Owner and Contractor a written recommendation as to the division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, maintenance, utilities, insurance and warranty period for that part of the Work which is binding upon Owner and Contractor as to that part of the Work, unless Owner and Contractor shall have otherwise agreed in writing and have so informed Engineer, or shall object to the Engineer in writing within fifteen (15) days of receiving Engineer's recommendations. Owner shall have the right to exclude Contractor from any part of the Work which Owner uses, but Owner shall allow Contractor reasonable access to complete or correct items on the tentative list of defective or deficient items.

12.4.2 In lieu of the provisions of paragraph 12.4.1, Owner may take over utilization of the Work or constituting part of the Work whether or not it is substantially complete if such Work is functionally and separately useable; provided that prior to any such takeover, Owner and Contractor have agreed as to the division of responsibilities between Owner and Contractor for security, operation, safety, maintenance, warranty period, heat, utilities and insurance with respect to such Work.

12.4.3 No occupancy of part of the Work or taking over of operations of the Work will be accomplished prior to acknowledgment from the insurers providing the property insurance on the Work that notice of such occupancy has been received and that said insurers, in writing, have effected the changes in coverage necessitated thereby. The insurers providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

Warranty Period:

12.5 After the date of final payment as set forth in paragraph 11.19, but prior to completion of the Warranty Period, if any Work is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, either correct such defective Work, or, if it has been rejected by Owner, remove it from the Work and replace it with nondefective Work. If Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be paid by Contractor. Contractor shall also pay for any damage done to other Work, other property or persons which occurred as a result of the defective Work within the Warranty Period.

The duration of the Warranty Period is provided in the Supplementary Conditions.

Acceptance of Defective Work:

12.6 If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, also Engineer) prefers to accept it, Owner may do so. In such case, if acceptance occurs prior to Engineer's recommendation of final payment, a Change Order shall be issued incorporating the necessary revisions in the Contract Documents, including appropriate reduction in the Contract Amount; or, if the acceptance occurs after such recommendation, an appropriate amount shall be paid by Contractor to Owner.

END ARTICLE 12

ARTICLE 13

WORK BY OTHERS

13.1 Owner may perform additional work related to the Work by himself, or have additional work performed by entities other than the Contractor, or let other direct contracts therefore which shall contain General Conditions similar to these.

Contractor shall afford the other entities who are parties to such direct contracts (or Owner, if Owner is performing the additional work with the Owner's employees) reasonable opportunity for the introduction and storage of materials and equipment and the execution of work, and shall properly connect and coordinate his Work with theirs.

13.2 If any part of Contractor's Work depends for proper execution or results upon the work of any such other entity (or Owner), Contractor shall inspect and promptly report to Engineer in writing any patent or apparent defects or deficiencies in such work that render it unsuitable for such proper execution and results. Contractor's failure so to report shall constitute an acceptance of the other work as fit and proper for integration with Contractor's Work, except for latent or non-apparent defects and deficiencies in the other work.

13.3 Contractor shall do all cutting, fitting and patching of his Work that may be required to make its several parts come together properly and integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected.

13.4 If the performance of additional work by other entities or Owner was not noted in the Contract Documents, written notice thereof shall be given to Contractor prior to starting any such additional work.

END ARTICLE 13

ARTICLE 14

MISCELLANEOUS

Giving Notice:

14.1 Whenever any provision of the Contract Documents requires the giving of written notice it shall be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

General:

14.2 Should Owner or Contractor suffer injury or damage to his person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim shall be made in writing to the other party within a reasonable time of the first observance of such injury or damage.

14.3 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon Contractor and all of the rights and remedies available to Owner and Engineer thereunder, shall be in addition to, and shall not be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by law or Agreement, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph shall be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents shall survive final payment and termination or completion of this Agreement.

Titles and Headings:

14.4 The titles and headings used in the Contract Documents are for guidance and convenience and are not intended to control over the specific language contained in the body of the paragraphs in the event a conflict, error or discrepancy occurs. Further, titles and headings shall not limit the scope of an article or paragraph.

END ARTICLE 14

SECTION 00800

SUPPLEMENTARY CONDITIONS

SECTION 00800

SUPPLEMENTARY CONDITIONS

1.0 WARRANTY PERIOD

The duration of time after the date stated in the Certificate of Final Payment or as stated in the Certificate of Substantial Completion for which the Contractor shall warranty the Work in accordance with paragraph 12.5 of the General Conditions, is 2 years, or a longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents or by any specific provision of the Contract Documents.

2.0 PROJECT REPRESENTATIVES

The following person, firm or corporation is identified as the Owner's authorized representative who is assigned to the Work or any part thereof;

Engineer/Owner's Representative: Richard Leffler, P.E., Town Engineer, or assignee

3.0 PRECONSTRUCTION CONFERENCE

A preconstruction conference will occur with the Town, the Town's Engineer and the Contractor on a date determined by the Town's Engineer.

4.0 ADDITIONAL NAMED INSURED

The Comprehensive General Liability Insurance will include as Additional Named Insured: the Owner (Town of Frederick and its officers, agents or employees) and its engineers and third-party consultants.

5.0 ON-SITE MATERIALS

The Contractor may utilize in the construction of this project any on-site materials which may be found to meet the Technical Specifications for such materials. Specifically, excavated soil can be used for some backfill and topsoil and milled asphalt can be used for fill under the new asphalt as approved by the Engineer.

6.0 FINAL INSPECTION

Final inspection shall include a representative of the Town, the Town's engineer and the Contractor. Construction shall not be considered complete until the Town has approved the same in writing.

7.0 CONSTRUCTION WATER

The Contractor will be responsible for the cost of all labor, equipment and material to convey the water from a Town of Frederick fire hydrant or other surface water source to the site of the work. All water must be metered utilizing a Town issued meter. No charge for the water used on the site will be assessed.

8.0 MATERIALS AND SERVICES SUPPLIED BY THE OWNER

The following materials and services shall be supplied by the Owner:

1. A Field Engineer for construction observation.

2. Easements and rights-of-way on the Owner's property as may be required.

The provision of these services in no way relieves the Contractor from any of its duties and responsibilities as described elsewhere in the Contract Documents.

9.0 PERMITS

The Contractor will be required to obtain the following permits/written permission letters, and provide copies of each form to the Engineer.

9.1 Grading Permits

The Contractor shall obtain all required grading permits for excavating, hauling, and placing offsite soil fill as required by all Federal, State, or local authorities. The Contractor shall be responsible for abiding by all the requirements and regulations described in the permits. Copies of the permits shall be given to the Owner's Representative before construction begins.

9.2 Utility Crossing Agreements as applicable

The Contractor shall obtain all required permits for crossing and working within any utility easements or rights-of-way. The Contractor shall coordinate and get approval from all utilities for working within the easements before construction begins. Copies of any permits or agreements shall be given to the Owner's Representative.

9.3 Traffic Control Plan

The Contractor shall obtain all required permits for closing road access. The Contractor shall coordinate and get approval from the Owner, Engineer, and Weld County before construction begins. Copies of any permits or agreements shall be given to the Owner's Representative.

10.0 OPERATION TIMES

Monday – Friday, 6:30AM – 5:30PM unless otherwise approved by engineer.

11.0 INSURANCE REQUIREMENTS

Insurance coverage is required in accordance with Article 5 of the General Conditions. Specific coverage and limits shall be as indicated below. The Contractor shall provide a copy of the actual policy for review at the time of the Notice to Proceed.

11.1 Worker's Compensation Insurance

The Contractor shall carry valid Worker's Compensation Insurance throughout the entire term of its obligations to the Owner. The limits of liability shall be in conformance with the statutory requirements of the Worker's Compensation Laws of the State of Colorado.

11.2 General Liability

11.2.1 Limits

a.	General Liability, Aggregate	\$2,000,000
b.	Products/Completed Operations Hazard, Aggregate	\$1,000,000
c.	Personal and Advertising Injury	\$1,000,000
d.	Each Occurrence	\$1,000,000
e.	Fire Damage (any one fire)	\$ 50,000
f.	Medical Expense (any one person)	\$ 5,000

11.2.2 In order to ensure that there are no impaired aggregates, a per job aggregate is required.

11.2.3 All coverages shall be continuously maintained to cover all liability, claims, demands and other obligations assumed by the Contractor pursuant to this Agreement. A claims-made policy may satisfy these insurance requirements, provided that the necessary retroactive dates and extended reporting periods are procured by the Contractor to maintain such continuous coverage.

11.3 Automobile Liability

11.3.1 Comprehensive, owned, hired, and non-coverages
required (combined single limit). \$ 1,000,000

11.4 Umbrella (excess) Liability

11.4.1 The Contractor shall carry valid Umbrella (excess) Liability Insurance throughout the entire term of its obligations to the Owner. The policy shall be in excess of all underlying insurance including employers liability. The policy shall not contain any exclusions for hazards, or contractual hazards. The limit of liability shall be \$2,000,000 in the aggregate.

11.5 Owner's Liability

11.5.1 The Contractor shall carry an Owner's Liability policy in the name of the Owner throughout the entire term of its obligations to the Owner. The limit of liability shall be \$1,000,000 in the aggregate.

11.6 Property Insurance

11.6.1 The Contractor shall purchase and maintain property insurance upon the entire Work at the site to the full insurable value thereof. Such insurance shall be in a company or companies against which the Owner has no reasonable objection.

This insurance shall include the interests of the Owner, the Contractor, subcontractors and sub-subcontractors in the Work as additional named insureds and shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss or damage including, without duplication of coverage, theft, vandalism and malicious mischief. If not covered under all risk insurance or otherwise noted in the Contract Documents, the Contractor shall effect and maintain similar property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included in a Request for Payment.

The form of policy for this coverage shall be "Completed Value". The coverage under this policy shall include contemplated work and work in progress.

The Contractor shall be responsible for payment of the amount of all deductibles in the event of a paid claim. If separate contractors are added as insureds to be covered by this policy, the separate contractor shall be responsible for payment of appropriate parts of any deductibles in the event claims are paid on their part of the Project.

11.7 Environmental coverage is required for the project and the insurance policy shall not exclude this coverage.

12.0 Paragraph 10.11 of the General Conditions shall be omitted and replaced by the following:

The Agreement, of which these Contract Documents form a part, may be terminated by the Owner for the following reasons: (a) Failure of the Contractor to start the Work on the date given in the Notice to Proceed; (b) Evidence that progress being made by the Contractor is insufficient to complete the Work within the Contract Time; (c) Failure on the part of the Contractor to observe any requirement of the Contract Documents; (d) Failure of the Contractor to promptly make good any defects in materials or Work or any defects of any other nature, the correction of which has been directed in writing by the Engineer; (e) Evidence of collusion for the purpose of illegally procuring an Agreement or perpetrating fraud on the Owner in the performance of Work under the Agreement; (f) If the Contractor is adjudged bankrupt or becomes insolvent; (g) If the Contractor shall allow any final judgment to stand against him unsatisfied for a period of ten (10) days; (h) If the Contractor makes an assignment for the benefit of creditors; (i) If a trustee or receiver is appointed for Contractor or for any of Contractor's property; (j) If Contractor files a petition to take advantage of any debtor's act, or to reorganize under the bankruptcy or similar laws; (k) If Contractor fails to supply sufficient skilled workmen or suitable materials or equipment; (l) If Contractor fails to make prompt payments to Subcontractors for labor, materials or equipment; (m) If Contractor violates laws, ordinances, rules, regulations or orders of any public body having jurisdiction; (n) If Contractor disregards the authority of Engineer; or (o) If Contractor otherwise violates in any way any provisions of the Contract Documents. Before the Agreement is terminated, the Contractor and his Surety will first be notified in writing by the Engineer of the conditions which make termination of the Agreement imminent. Seven (7) days after this notice is given, if a satisfactory effort has not been made by the Contractor or his Surety to correct the conditions, the Owner may declare the Agreement terminated and notify the Contractor and his Surety accordingly. Upon receipt of notice from the Owner that the Agreement has been terminated, the Contractor shall immediately discontinue all operations. The Owner may then proceed with the Work in any lawful manner that he may elect until it is finally completed. Owner may exclude Contractor from the site of the Work and take possession of the Work and of all Contractor's tools, appliances, construction equipment and machinery at the site of the Work and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion), incorporate in the Work all materials and equipment stored at the site of the Work or for which Owner has paid Contractor but which are stored elsewhere, and finish the Work as Owner may deem expedient. In such case Contractor shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Amount exceeds the direct and indirect costs of completing the Work, including compensation for additional professional services, such excess shall be paid to Contractor. If such costs exceed such unpaid balance, Contractor shall pay the difference to Owner. Such costs incurred by Owner shall be verified by Engineer and incorporated in a Change Order, but in finishing the Work, Owner shall not be required to obtain the lowest figure for the Work performed. In the event of breach of the Contract by Contractor, Contractor shall pay all of Owner's consequential damages, attorney fees, engineering fees, and other costs and expenses of any kind.

- 13.0 Paragraph 11.12 shall be amended to include the following statement:

The Contractor shall submit a lien waiver release form releasing all claims for work done up to and including the date of application for partial payment. This form will be submitted by the Contractor and all subcontractors with each request for payment.

- 14.0 TOWN OF FREDERICK - ADDITIONAL CONDITIONS

The following conditions supplement similar language contained elsewhere in these Contract Documents.

- 14.1 By executing the contract, the contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.
- 14.2 Contractor shall cause its subcontractors and outside consultants to keep and maintain, in Colorado, books, records, accounts and other documents (hereinafter collectively referred to as "records") that Contractor deems sufficient to accurately and completely reflect all costs incurred pursuant to this Contract which may be the basis of a Contractor Change Request or a claim by the Contractor. Such records may include the bid estimate, receipts, memoranda, vouchers, and accounts of every kind and

nature pertaining to the performance of the Work. All such records may be kept for three (3) years from the date of Final Acceptance.

- 14.3 The Owner, its representatives, funding agencies and any firm of auditors retained by the Owner shall have access, upon reasonable advance notice in writing, to all such records maintained by Contractor and its subcontractors and consultants, for the purpose of auditing and verifying Contractor's costs or any other costs claimed to be due and payable hereunder. The Owner shall have the right to reproduce any such records, and Contractor and its subcontractors and consultants shall keep and preserve all such records for a period of at least three (3) years from, and after final acceptance or termination of the Contract.
- 14.4 This section shall not limit the Owner's right to audit the Contractor's, Subcontractors' or sub-Subcontractors' records for compliance with the requirements of the Contract.
- 14.5 The Contractor agrees to indemnify and hold harmless Owner, its officers, employees, insurers, and self-insurance pool, from and against all liability, claims, and demands, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this contract, if such injury, loss, or damage is caused in whole or in part by, or is claimed to be caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault of the Contractor, any subcontractor of the Contractor, or any officer, employee, representative, or agent of the Contractor or of any subcontractor of the Contractor, or which arise out of any workmen's compensation claim of any employee of the Contractor or of any employee of any subcontractor of the Contractor. The Contractor agrees to investigate, handle, respond to, and to provide defense for and defend against, any such liability, claims, or demands at the sole expense of the Contractor. The Contractor also agrees to bear all other costs and expenses related thereto, including court costs and attorney fees, whether or not any such liability, claims, or demands alleged are groundless, false, or fraudulent.
- 14.6 In the event of any dispute or claim arising under or related to this Agreement, the parties agree to use their best efforts to settle such dispute or claim through good faith negotiations with each other. If such dispute or claim is not settled through negotiations within 30 days after the earliest date on which one party notifies the other party in writing of its desire to attempt to resolve such dispute or claim by arbitration conducted under the auspices of the Judicial Arbitrator Group (JAG) in Denver, or under the auspices of a recognized established mediation service within the State of Colorado. Such arbitration shall be conducted within 60 days following either party's written request therefor. If such dispute or claim is not settled through arbitration, then either party may institute a civil action in the Weld County District Court. In either event, the prevailing party shall be awarded attorney fees and costs.
- 14.7 The Owner is relying on, and does not waive or intend to waive by any provision of this Agreement, the monetary limitations or any rights, immunities and protection provided by the Colorado Governmental Immunities Act (C.R.S. 24-10-101 et seq.) as from time to time amended or otherwise available to the Owner, its officers, agents, employees, attorneys, engineers, planners, indemnifiers and insurers.
- 14.8 The Contractor shall indemnify and hold harmless the Owner from any and all suits, actions, and claims of every nature and description caused by, arising from, or on account of, any negligent act or omission of the Contractor during construction of the subdivision and maintenance of the streets, roads and other utilities. The Contractor shall require that all contractors and other employees engaged in construction of improvements maintain adequate worker's compensation insurance and public liability coverage, and shall faithfully comply with the provisions of the Federal Occupation Safety and Health Act and all other applicable federal and state laws.

SECTION 00900

ADDENDA AND MODIFICATIONS

**00950 - Change Order to the
Agreement**

SECTION 00950

CHANGE ORDER TO THE AGREEMENT

State

Contract Change Order Number

County

Date

Owner: _____

Description of Work: _____

Contractor: _____

You are hereby requested to comply with the following changes to the Contract Documents

<u>Description of Changes</u> <u>Supplemental Plans & Specs Attached</u>	<u>DECREASE TO</u> <u>Contract Amount</u>	<u>INCREASE TO</u> <u>Contract Amount</u>
(See attached schedule)	\$ _____	\$ _____
TOTALS	\$ _____	\$ _____
NET CHANGE IN CONTRACT AMOUNT	\$ _____	\$ _____

JUSTIFICATION:

The amount of the Agreement will be (decreased) (increased) by the sum of: (\$ _____),

Dollars.

The Contract Amount including this and previous change orders will be: (\$ _____),

Dollars.

The Contract Time provided for completion will be (increased) (decreased) (unchanged) _____ days.

Contract Change Order # _____
Page Two

This document will become a supplement to the Agreement and all provisions will apply hereto:

Requested:

CONTRACTOR

By _____

Title _____

Date _____

Recommended:

OWNER'S ENGINEER

By _____

Title _____

Date _____

Approved:

OWNER
By _____

Title _____

Date _____

NOTE: Prior to incorporation of any Change Order into the Work or otherwise modifying the Agreement, OWNER must make appropriations for any increase to the Contract Amount in accordance with Colorado statutory requirements.

END SECTION

Division 1 - General Requirements

SECTION 01010

Summary of Work

1.01 GENERAL

General Town of Frederick Construction and Design Standard drawings and specifications shall be applied as noted and referenced as needed. Furnish and install all labor and materials for the application of the following:

- 1) Patching: Saw cut and patch asphalt with a roadway section of hot mix asphalt pavement and compacted aggregate base course per the Town of Frederick Design Standards and Construction Specifications (Table 500-12) based on the roadway's designation (i.e. Arterial, Local) (Table 500-11). Re-compaction of aggregate base and subgrade preparation shall be included in the cost of the asphalt patch.
- 2) Crack Seal: Apply hot pour rubberized mastic crack filler as necessary for all cracks of greater than 1". Cracks shall be cleaned with compressed air prior to application of crack seal material. Crack sealing will occur mostly on the roadway shoulder, and at areas where patching is not being used.
- 3) Chip Seal: Application of a graded aggregate cover coat with an emulsified asphalt seal coat. The aggregate shall have a nominal aggregate size of 3/8" (See attached Specification). The emulsion to be used shall be of type CRS-2P (See attached Specification).

4) Material Application Rates:

Material	1/2" Chipseal	3/8" Chipseal	1/4" Chipseal
CRS-2P Chipseal	.38-.42 Gal/SY	.36-.40 Gal/SY	.30-.34 Gal/SY
CRS-2P Fogseal	.12 Gal/SY Minimum	.11 Gal/SY Minimum	.10 Gal/SY Minimum
Cover Coat Aggregate	25lbs/SY Minimum	23 lbs/SY Minimum	22 lbs/SY Minimum

The specific emulsion and cover aggregate application rate shall be determined using factors such as surface temperature, traffic volume, existing road condition, and time of year. The Contractor may alter the application rate at any time during the course of the construction upon approval by the Project Manager.

- 5) Manholes, Valve Boxes and Existing Thermo Markings: Manholes, valve boxes, and thermo markings shall be covered with an appropriate material during the operation and shall be removed immediately after the street has been chipsealed and fogsealed. Manholes and valve boxes in patched areas shall be raised if necessary to the asphalt surface per the Town of Frederick Design Standards and Construction Specifications. The Contractor is responsible for locating and exposing all manholes, valve boxes and thermo markings prior to chipsealing.
- 6) Basis of Payment: Payment shall be made for the accepted quantities of materials as defined in the bid tabulation. Chipseal shall be paid on a per square yard basis for a completed chipseal surface coat; the emulsion and the aggregate for the chipseal coat shall not be paid separately.
- 7) Application of Additional Aggregate: The Town reserves the right to require repeated applications of approved crusher fines for blotting by chip spreader or other method felt necessary in the event prolonged tackiness is encountered. Traffic hazard that occurs on any street receiving the chipseal treatment due to loss of cover coat and bituminous material, additional patching or total re-application on any street will be required. Warranty work deemed by the Town Representative shall be at the Contractors sole expense.
- 8) Brooming as necessary to remove excess aggregate.
- 9) Repaint all striping covered during chip seal application including the double yellow center and white shoulder striping.
- 10) Traffic control shall be applied as necessary throughout all of these operations. No complete road closures will be allowed; at least one travel lane must be open at all times. The cost of all activities not specifically included on the bid tab shall be borne by the contractor. Brooming shall be performed, at the contractors cost, after application of the chip seal, until all loose aggregate has been removed.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 - GENERAL

The entire cost of the work and the material necessary to complete all items shown or implied on the Drawings or specified herein, shall be included and merged into the pay items shown in the Bid Schedule. All payments shall be subject to the conditions of these specifications.

All pay items shall include materials, transportation expenses to the job site, cost of installation, and maintenance during construction, guarantees and warranties, if applicable, profit, sales tax, license, permits, and other taxes required for the completion of the project in place for each item in the Bid Schedule.

No additional compensation will be allowed for any item beyond the limits as shown on the Contract Drawings without the prior written approval of the Engineer.

PART 2 - MEASUREMENT AND PAYMENT

Site Work

2.01 MOBILIZATION

This item shall be paid for on a lump sum (LS) basis and shall include the cost of furnishing at the job site all equipment, facilities, materials, personnel, and supplies required to complete the construction; acquiring permits as necessary to construct the project; provide the required bonds and insurance; coordinate with utility companies for work in and around their facilities and easements; and demobilization costs. The cost of Mobilization shall not constitute more than five (5) percent of the total contract amount.

2.02 TRAFFIC CONTROL

This item shall be paid for on a lump sum (LS) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing traffic control as indicated on the Construction Drawings and Technical Specifications. This item also includes but not limited to supplying signs, installation, monitoring, maintenance, moving signs and removal for the duration of the project.

Asphalt Paving

2.03 REMOVAL OF ASPHALT MAT (ASPHALT TO BE REMOVED)

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for full depth removal of asphalt mat as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to removal and disposal of asphalt.

2.04 CRACKSEALING (MASTIC)

This item shall be paid for on a ton (TON) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the crack sealant to as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to supplying and installing mastic crack sealant.

2.05 HOT BITUMINOUS PAVEMENT (PATCHING) (GRSX) (3.5")

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the 3.5-inch full depth asphalt to neat line as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to staking, re-compaction of existing aggregate or subgrade, adjusting rim elevations of manholes and valve boxes in the street, laying asphalt, compaction, testing and cores.

2.06 HOT BITUMINOUS PAVEMENT (PATCHING) (GRSX) (6.0")

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the 6.0-inch full depth asphalt to neat line as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to staking, re-compaction of existing aggregate or

subgrade, adjusting rim elevations of manholes and valve boxes in the street, laying asphalt, compaction, testing and cores.

2.07 HOT BITUMINOUS PAVEMENT (PATCHING) (GRSX) (VARIABLE DEPTH)

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the variable full depth asphalt to neat line as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to staking, re-compaction of existing aggregate or subgrade, adjusting rim elevations of manholes and valve boxes in the street, laying asphalt, compaction, testing and cores.

2.08 CHIP SEAL (3/8")

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and Summary of Work and shall include all equipment, materials, and labor; for supplying and installing the chip seal material and appurtenances as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to supplying and application of chip sealant material.

2.09 1.5-INCH MILL AND ASPHALT OVERLAY

This item shall be paid for on a square yard (SY) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the asphalt overlay to neat line as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited to adjusting rim elevations of manholes and valve boxes, laying asphalt, rumble strips, compaction, milling existing asphalt and stockpiling millings, testing and cores.

2.10 STRIPING

This item shall be paid for on a lump sum (LS) basis as indicated in the Bid Schedule and shall include all equipment, materials, and labor; for supplying and installing the striping as indicated on the Construction Drawings and Technical Specifications. This item includes but not limited supplying and installing the striping and pavement markings.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01050 - FIELD ENGINEERING

PART 1 - GENERAL

1.01 SURVEYING

The Engineer will field establish horizontal and vertical control points only. It shall be the responsibility of the Contractor to provide construction staking for horizontal and vertical alignment, as well as for appurtenant features of the work.

1.02 SUPERVISION

The Contractor shall have supervisory personnel, knowledgeable of the project requirements and proper installation and construction procedures, available in the field at all times that work is progressing.

1.03 FIELD TRAILER (NOT REQUIRED)

1.04 ADDITIONAL WORK

When alterations in the Plans or quantities of work not requiring Supplemental Agreements are ordered and performed, the Contractor shall accept payment in full at the Contract Price for the actual quantities of work done. The Contractor's fee for overhead and profit shall be 15 percent. Where one or more tiers of subcontractors are involved, the Subcontractor who actually performs the work will be paid a 15 percent fee for overhead and profit; and any higher tiers, including the Contractor will each be paid a fee of five percent of the cost of the work. The maximum aggregate overhead and profit fee shall be 20 percent of the cost of the work. Increased or decreased work involving supplemental agreements will be paid for as stipulated therein.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01070 - ABBREVIATIONS

PART 1 - GENERAL

1.01 ABBREVIATIONS

When the following abbreviations are used in these Technical Specifications, the intent and the meaning shall be interpreted as follows:

AA	Aluminum Association
AAMA	Architectural Aluminum Manufacturers' Association
AAN	American Association of Nurserymen
AASHTO	American Association of Highway and Transportation Officials
ACI	American Concrete Institute
AFBM	Anti-Friction Bearing Manufacturers' Association
AGA	American Gas Association
AGMA	American Gear Manufacturers' Association
AI	Asphalt Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute
APA	American Plywood Association
API	American Petroleum Institute
AREA	American Railway Engineering Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWI	American Woodwork Institute
AWPA	American Wood Preservers' Association
AWPI	American Wood Preservers' Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders' Hardware Manufacturers' Association
BIA	Brick Institute of America
CBMA	Certified Ballast Manufacturers' Association
CDA	Copper Development Association
CDoT	Colorado Department of Transportation
CDH	Colorado Department of Health
CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers' Association of America
COSH	Colorado Occupational Safety and Health Standards Board
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard
CSI	Construction Specifications Institute
DFPA	Douglas Fir Plywood Association

EPA	United State Environmental Protection Agency
Fed.Spec. FM	Federal Specification Factory Mutual System
HI	Hydraulics Institute
HMI	Hoist Manufacturers' Association
ICBO	International Congress of Building Officials
IEEE	Institute of Electrical and Electronics Engineers, Inc.
ICEA	Insulated Cable Engineers' Association
IPCEA	Insulated Power Cable Engineers' Association
ISA	Instrumentation Society of America
JIC	Joint Industry Conferences of Hydraulics
MIL	Military Specification
MMA	Monorail Manufacturers' Association
MRI	Malaysian Rubber Institute
MSS	Manufacturers' Standardization Society of the Valve and Fittings Industry
NBC	National Building Code
NBFU	National Board of Fire Underwriters
NBHA	National Builders' Hardware Association
NBS	National Bureau of Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturers' Association
NESC	National Electric Safety Code
NFPA	National Fire Protection Association
NLMA	National Lumber Manufacturers' Association
NWMA	National Woodwork Manufacturers' Association
OECI	Overhead Electric Crane Institute
OSHA	Occupational Safety and Health Act
PCA	Portland Cement Association
PTI	Post Tensioning Institute
PS	Products Standards Section - U. S. Department of Commerce
RMA	Rubber Manufacturers' Association
SAE	Society of Automotive Engineers
SDI	Steel Door Institute
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code
UFC	Uniform Fire Code
UL	Underwriters' Laboratories, Inc.
UPC	Uniform Plumbing Code
WWPA	Western Wood Products Association

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01160 - SITE CONDITIONS

PART 1 - SITE INVESTIGATIONS AND REPRESENTATION

- 1.01 The Contractor acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon access to the site; handling, storage, and disposal of materials; availability of water, electricity and roads; uncertainties of weather, river stages, or similar physical conditions at the site; the conformation and conditions of the ground; the equipment and facilities needed preliminary to and during the execution of the work; and all other matters which can in any way affect the work or the cost thereof under this Contract.
- 1.02 The Contractor further acknowledges that he has satisfied himself as to the character, quality and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory work furnished by the Owner or included in these Documents. Failure by the Contractor to acquaint himself with the physical conditions of the site and all the available information will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- 1.03 The Contractor warrants that as a result of his examination and investigation of all the aforesaid data that he can perform the work in a good and workmanlike manner and to the satisfaction of the Owner. The Owner assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by the Owner.

PART 2 - INFORMATION ON SITE CONDITIONS

- 2.01 Any information obtained by the Engineer regarding site conditions, subsurface information, groundwater elevations, existing construction of site facilities, and similar data will be available for inspection, as applicable, at the office of the Engineer upon request. Such information is offered as supplementary information only. Neither the Engineer nor the Owner assumes any responsibility for the completeness or interpretation of such supplementary information.
- A. Differing Subsurface Conditions:
1. In the event that the subsurface or latent physical conditions are found materially different from those indicated in these Documents, and differing materially from those ordinarily encountered and generally recognized as inherent in the character of work covered in these Technical Specifications, the Contractor shall promptly, and before such conditions are disturbed, notify the Engineer in writing of such changed conditions.
 2. The Engineer will investigate such conditions promptly and following this investigation, the Contractor shall proceed with the work, unless otherwise instructed by the Engineer. If the Engineer finds that such conditions do so materially differ and cause an increase or decrease in the cost of or in the time required for performing the work, the Engineer will recommend to the Owner the amount of adjustment in cost and time he considers reasonable. The Owner will make the final decision on all Change Orders to the Contract regarding any adjustment in cost or time for completion.
- B. UNDERGROUND UTILITIES
1. Known utilities and structures adjacent to or encountered in the work are shown on the Drawings. The locations shown are taken from existing records and the best information available from existing utility plans, however, it is expected that there may be some discrepancies and omissions in the locations and quantities of utilities and structures shown. Those shown are for the convenience of the Contractor only, and no responsibility is assumed by either the Owner or the

Engineer for their accuracy or completeness.

PART 3 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

3.01 GENERAL

- A. Where the Contractor's operations could cause damage or inconvenience to railway, telegraph, telephone, television, oil, gas, electricity, water, sewer, or irrigation systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor.
- B. Notify all utility offices which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.
- C. The Contractor shall protect all utility poles from damage. If interfering power poles, telephone poles, guy wires, or anchors are encountered, notify the Engineer and the appropriate utility company at least 48 hours in advance of construction operations to permit the necessary arrangements for protection or relocation of the interfering structure.
- D. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.
- E. Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.
- F. If the Contractor while performing the Contract discovers utility facilities not identified in the Drawings or Specifications, he shall immediately notify the Owner, utility, and the Engineer in writing.
- G. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in the restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.
- H. The Contractor shall replace, at his own expense, any and all other existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents or ordered by the Engineer.

3.02 INTERFERING STRUCTURES

- A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground. An attempt has been made to show major structures on the Drawings. The completeness and accuracy cannot be guaranteed, and it is presented simply as a guide to avoid known possible difficulties.

3.03 FIELD RELOCATION

- A. During the progress of construction, it is expected that minor relocations of the work will be necessary. Such relocations shall be made only by direction of the Engineer. If existing structures are encountered that prevent the construction, and that are not properly shown on the Drawings, notify the Engineer before continuing with the construction in order that the Engineer may make such field revision as necessary to avoid conflict with the existing structures. If the Contractor shall fail to so notify the Engineer

when an existing structure is encountered, and shall proceed with the construction despite the interference, he shall do so at his own risk.

3.04 EASEMENTS

- A. Portions of the work are located on public and/or private easements. Permits shall be obtained by the Contractor for construction, crossing, or for any other use as required by the easement owners. Copies of these permits shall be provided to the Owner and his Engineer before construction begins within the easements. Easements will provide for the use of the property for construction purposes to the extent indicated on the easements. It shall be the Contractor's responsibility to determine the adequacy of the easement obtained in every case and to abide by all requirements and provisions of the easement.
- B. The Contractor shall confine his construction operations to within the easement limits or make special arrangements with the property owners or appropriate public agency for the additional area required. Any damage to property, either inside or outside the limits of the easements provided by the Owner, shall be the responsibility of the Contractor as specified herein. The Contractor shall remove, protect, and replace all fences or other items encountered on public or private property. Before final payment will be authorized by the Engineer, the Contractor will be required to furnish the Owner with written releases from property owners or public agencies where side agreements or special easements have been made by the Contractor or where the Contractor's operations, for any reason, have not been kept within the construction right-of-way obtained by the Owner.

3.05 LAND MONUMENTS

- A. The Contractor shall notify the Engineer of any existing Federal, State, Town, County, and private land monuments encountered. Private monuments shall be preserved, or replaced by a licensed surveyor at the Contractor's expense. When Government monuments are encountered, the Contractor shall notify the Engineer at least two (2) weeks in advance of the proposed construction in order that the Engineer will have ample opportunity to notify the proper authority and reference these monuments for later replacement.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01310 - CONSTRUCTION SCHEDULES

PART 1 - GENERAL

1.01 GENERAL

- A. Prepare detailed schedule of all construction operations and procurements to be included in the Bid Package. The construction schedule and other information for the Bid Submittal will be used in qualifying each Contractor to complete the work in a timely manner.

1.02 FORMAT AND SUBMISSION

- A. Prepare construction and procurement schedules in a graph format suitable for displaying scheduled and actual progress.
- B. Submit 2 copies of each schedule to Owner's Representative for review. The Engineer will return 1 copy to Contractor with revisions suggested or necessary for coordination of the work with the needs of the Owner, Ditch Companies, utilities, and/or others.

1.03 CONTENT

- A. Construction Progress Schedule
 - 1. Show the complete work sequence of construction by activity and location.
 - 2. Godding Hollow Parkway (WCR 18) roadway closure from Johnson Drive to Eagle Boulevard limited to summer months when school is not in session to allow for concrete box culvert (CBC) construction.
 - 3. As a minimum, show the dates for the beginning and completion of:
 - a. Mobilization
 - b. Permits
 - c. Utilities
 - d. Demo/Removal of Items
 - e. CBC Excavation
 - f. CBC Bedding Placement
 - g. CBC Concrete Placements
 - h. CBC Riprap/Bedding Placement
 - i. Mill Existing Asphalt
 - j. Culvert Replacements
 - k. Asphalt Paving
 - l. Curb, Gutter and Sidewalk Construction
 - m. Seeding and Mulching
 - 4. Show projected percentage of completion of each item as of the first day of the month.
- B. Report of delivery of equipment and materials.
 - 1. Show delivery status of critical and major items of equipment and materials.
 - 2. Include a schedule which includes the critical path for Shop Drawings, tests, and other submittal requirements for equipment and materials.

1.04 PROGRESS REVISIONS

- A. Submit revised schedules and reports when changes are foreseen, when requested by the Owner's Representative, and with each application for progress payment.
- B. Show changes occurring since previous submission.
 - 1. Actual progress of each item to date.
 - 2. Revised projections of progress and project completion.

1.05 MILESTONE DATES

	Activity	Date
1.	Start Construction	June 1, 2015
2.	Project Substantially Complete	December 1, 2015
3.	Project Complete	December 15, 2015

Dates above will be adjusted for the actual start date of the project.

1.06 SCHEDULE MEETING

The Contractor and Owner's Representative shall meet on a weekly basis to review schedule implementation and assess the project progress. The meeting shall be at the project site or at the office of the Owner's Representative.

1.07 MISCELLANEOUS

Engineer's review is only for the purpose of checking conformity to the Contract Documents. Said review is not to be construed as relieving the Contractor from any responsibility to determine the means, methods, techniques, sequences, and procedures of construction as provided in the General Conditions.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01345 - SUBMITTALS

1.01 GENERAL

- A. Contractor shall furnish, process, deliver, reproduce and perform other necessary functions incidental to scheduling and handling of shop drawings, project data and samples, operation and maintenance manuals, equipment record sheets, manufacturers' certificate of proper installation, and record drawings, as indicated on Drawings or as specified, and in accordance with provisions of the Contract Documents.
- B. See appropriate Specification and Contract Documents sections for specific items for which data and/or samples are required. See General Conditions for additional information.
- C. Review or acceptance of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by the Contractor shall not add to the Contract Price, and all additional costs which may result there from shall be solely the obligation of the Contractor. It shall not be the responsibility of the Owner to provide engineering or other services to protect the Contractor from additional costs accruing from such review or acceptance.
- D. No equipment or material for which listings, drawings, or descriptive material is required shall be installed until the Engineer has on hand copies of such accepted lists and the appropriately stamped final shop drawings.
- E. The review of drawings by the Engineer will be limited to general design requirements only, and shall in no way relieve the Contractor from responsibility for errors or omissions contained therein.
- F. Submittals will be acted upon by the Engineer as promptly as possible. Delays caused by the need for resubmittals shall not constitute reason for an extension of Contract Time.
- G. The Engineer will perform only two (2) reviews on a specific submittal. If additional review by the Engineer is required, all costs associated with the additional review will be borne by the General Contractor.

1.02 ADDRESS

Submittals shall be sent to the following address:

Civil Resources, LLC
Attn: Brad Hagen, P.E.
323 Fifth Street
P.O. Box 680
Frederick, Colorado 80530

1.03 SUBMITTALS - SHOP DRAWINGS

- A. The Contractor agrees that shop drawing submittals processed by the Engineer do not become Contract Documents and are not Change Orders; that the purpose of the Shop Drawing review is to establish a reporting procedure and is intended for the Contractor's convenience in organizing his work and to permit the Engineer to monitor the Contractor's progress and understanding of the design.
- B. Contractor shall be responsible to make submittals and transmit the items with a letter of transmittal.
- C. Number submittals consecutively beginning with 1.

1. An item that is resubmitted will retain the original number but with an added suffix letter starting at A.
 2. Do not change the scope of a submittal on any re-submittals.
 3. Insure only one specification section is covered by one letter of transmittal.
 4. Provide sufficient catalog information together with technical data to allow an evaluation to be made to determine that the item submitted is in compliance with the Specifications.
- D. Shop Drawings submitted to the Engineer by other than the Contractor will be returned to the Contractor without action of any kind. Shop Drawings will not be received from or returned to subcontractors.
- E. Submit items sufficiently in advance of date required to allow reasonable time for review, and to allow for resubmission if necessary. Items not submitted in accord with the provisions of Technical Specifications or Contract Documents will be returned, without action, for resubmission. Delays caused by above shall be Contractor's responsibility.
- F. On Shop Drawing transmittal sheet, identify manufacturer, item, drawing or data number and Specification section number. On Shop Drawings, identify use, type, project designation, tag number or drawing detail reference, and other pertinent information.
- G. The Contractor shall submit five (5) copies of each Shop Drawing. Shop drawings shall be drawn on 24-inch x 36-inch sheets or other formats as acceptable to the Engineer. Two (2) copies will be returned to the Contractor. If the Contractor desires more than two (2) copies, he may submit additional copies which will be returned to him.
- H. Contractor shall stamp his approval on Shop Drawings prior to submission to Engineer as indication of his checking and verification of dimensions and coordination with interrelated items. Marks on drawings by Contractor shall not be in red. Any marks by Contractor shall be duplicated on all copies submitted. Contractor marks on reproducible transparencies shall be outlined with a rectangular box. Shop Drawings submitted without having the Contractor's stamp of approval will also be returned without action.
- I. Submit standard items such as product data sheets or standard catalog sheets or pages. Indicate exact item or model and all proposed options. Include material specifications, construction details, legible scale details, sizes, dimensions, weights, performance characteristics, test data, anchoring details, location of connections to other work, storage and handling instructions, color charts and paint system, layout drawings, parts catalogs, rough-in diagrams, supporting calculations for equipment and associated supports specified to be designed by equipment manufacturers or suppliers, special handling instructions, and other pertinent data.
- J. If proposed equipment or materials deviate from the Specifications or Drawings in any way, the deviations shall be clearly noted and justification for said deviations shall be explained in detail in a separate letter immediately following transmittal sheet. If explanation is not given, Shop Drawings will be returned without action.
- K. Should the Contractor propose any item on his Shop Drawings, or incorporate an item into the work, and that item should subsequently prove to be defective or otherwise unsatisfactory, (regardless of the Engineer's preliminary review), the Contractor shall, at his own expense, replace the item with another item that will perform satisfactorily.

1.04 SUBMITTALS -OPERATION AND MAINTENANCE MANUALS AND EQUIPMENT RECORD SHEETS

- A. Required for all electrical and mechanical equipment installed by Contractor.

1.05 SUBMITTALS - SAMPLES

- A. Where required, submit two (2) samples each to address indicated above. Identify samples as to: manufacturer, item, use, type, project designation, tag number, specification section or drawing detail reference, color, range, texture, finish and other pertinent data.
- B. Forward with transmittal letters. Include brochures and installation instructions. Contractor to stamp his approval on sample transmittals as indication of his checking and verification of dimensions and coordination with interrelated items. Resubmit samples of rejected items.
- C. Acceptable samples submitted or constructed, constitute criteria for judging completed work. Finish work or items not equal to samples will be rejected.
- D. Samples may be retained for comparison purposes and the Contractor shall remove samples when directed. The contractor shall include in bid all costs of furnishing and removing samples.

1.06 SUBMITTALS - RECORD DRAWINGS

- A. The Contractor shall prepare a set of Record Drawings for the project that will include the changes made in materials, equipment, location and dimensions of the work. Bi-weekly, or as otherwise agreed, the Contractor shall submit to the Engineer a current listing and description of each change incorporated into the work since the preceding submittal.

1.07 SUBMITTALS - MANUFACTURER'S CERTIFICATE OF PROPER INSTALLATION
(NOT REQUIRED)

1.08 SUBMITTALS - CERTIFICATES OF COMPLIANCE WITH SPECIFIED STANDARDS AND CODES
(NOT REQUIRED)

1.09 SUBMITTALS - ACCEPTANCE OR REJECTION

- A. Transmittals will be reviewed for overall design intent and returned to Contractor with action to be indicated by the Engineer. It shall be the Contractor's responsibility to assure that previously accepted documents are destroyed when they are superseded by a resubmittal as such.
- B. It shall be the Contractor's responsibility to insure that required items are corrected and resubmitted.
- C. If the items or system proposed are acceptable however the major part of the individual drawings or documents are incomplete or require revision, the submittal will be returned with requirements for completion.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01400 - QUALITY CONTROL

1.01 TESTING - GENERAL

The Contractor shall provide such equipment and facilities as the Engineer may require for conducting field tests and for collecting and forwarding samples. Materials or equipment represented by samples shall not be used until tests, if required, have been made and the materials or equipment found to be acceptable. Any product which becomes unfit for use after approval thereof shall not be incorporated into the work.

All materials or equipment proposed to be used may be tested at any time during their preparation or use. The required samples shall be furnished without charge and sufficient notice given prior to the placing of orders to permit the testing. Products may be sampled either prior to shipment or after being received at the site of the work.

The following tests shall be made by a testing laboratory or qualified field technicians, approved by the Engineer and paid for by the Contractor.

A. Fill and Backfill Tests

Subgrade, excavation backfill, bedding and general fill control tests shall be made at such times and in such numbers as specified in Division 2 - Site Work. Contractor shall be responsible for coordinating and paying for compaction tests and any retesting that may be required.

B. Concrete and Masonry Tests

Control tests of concrete work shall be made at such times and in such numbers as specified in Division 3 – Concrete. Contractor shall coordinate and contract a material testing consultant to collect samples and perform index and strength testing of each cylinder set.

C. Asphalt Tests

Control tests of asphalt in accordance with the Town of Frederick Design Standards and Construction Specifications Table 500-17.

1.02 OTHER TESTING

The following testing shall be performed at the expense of the Contractor installing the material being tested:

A. Material Substitution

Any tests of basic material or fabrication equipment offered as a substitute for specified item on which a test may be required in order to prove its compliance with the Specifications.

B. Test Failure

Any test that fails shall be re-worked and re-tested, and will be paid for by the Contractor. Areas of work where test failure occurs are subject to the following conditions:

1. Quantity and nature of tests will be determined by the Engineer. All tests shall be taken in the presence of the Engineer or his representative.
2. Proof of noncompliance will make the Contractor liable for any corrective action which the Engineer determines is prudent including complete removal and replacement of defective material.

Nothing contained herein is intended to imply that the Contractor does not have the right to have tests performed

on any material at any time for his own information and job control so long as the Owner does not assume responsibility for costs or for giving them consideration when appraising quality of materials.

1.03 TEST REPORTS

Reports of all tests made by testing laboratories shall be distributed by the testing laboratory as follows:

- 1 copy - Contractor
- 1 copy - applicable supplier or Subcontractor
- 2 copies - Owner's Representative
- Other copies - as directed.

1.04 CONTRACTOR'S QUALITY CONTROL SYSTEM

A. General

The Contractor shall establish a quality control system to perform sufficient inspection and tests of all items of work, including that of Subcontractors, to insure conformance to the Contract Documents for materials, workmanship, construction, finish, functional performance and identification. This control shall be established for all construction except where the Contract Documents provide for specific compliance tests by testing laboratories or engineers employed by the Owner. The Contractor's quality control system shall specifically include all testing required by the various sections of the Specifications.

The Contractor's quality control system is the means by which he assures himself that his construction complies with the requirements of the Contract Documents. Controls shall be adequate to cover all construction operations and shall be keyed to the proposed construction schedule.

B. CBC Alignment and Grade

CBC alignment and grade is to be maintained through the use of suitable surveying instruments or laser equipment operated continuously during construction. Horizontal tolerances of $\pm 0.3'$ and vertical tolerances of $\pm 0.05'$ maximum deviation from plan and construction staking are to be maintained, except that visible "snaking" of the horizontal alignment and changes in direction of slope will not be permitted.

C. Pressure Testing (Not Required)

Refer to the Pipe technical specification section.

D. Electrical and Control Systems (Not Required)

All lighting and electrical systems shall be tested and demonstrated to the satisfaction of the Engineer.

E. Mechanical (Not Required)

F. Records

The Contractor shall maintain correct records on an appropriate form for all inspections and tests performed, instructions received from the Engineer and actions taken as a result of those instructions. These records shall include evidence that the required inspections or tests have been performed (including type and number of inspections or tests, nature of defects, causes for rejection, etc.), proposed or directed remedial action, and corrective action taken. The Contractor shall document inspections and tests as required by each section of the Specifications.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01500 - CONSTRUCTION TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 NOISE CONTROL

- A. The Contractor shall take reasonable measures to avoid unnecessary noise when work is being performed in populated areas.
- B. The Contractor shall equip construction machinery and vehicles with practical sound and muffling devices and operate in a manner to minimize noise consistent with efficient performance of the work.

1.02 DUST CONTROL

The Contractor shall:

- A. Take reasonable measures to prevent unnecessary dust.
- B. Moisten dirt roads used for transportation and haul with water or apply a chemical dust suppressant to control dust.
- C. Cover dusty material in transit when necessary to prevent blowing.

1.03 POLLUTION CONTROL

The Contractor shall:

- A. Prevent the pollution of drains and water courses by sanitary wastes, concrete, sediment, debris and other substances resulting from construction activities;
- B. Retain all spent oils, hydraulic fluids and other petroleum fluids in containers for disposal off the site;
- C. Not perform equipment maintenance or fueling within 50 feet of any water course.
- D. Take appropriate measures to prevent sediment, debris or other deleterious substances from entering storm and sanitary systems.

1.04 EROSION CONTROL

The Contractor shall:

- A. Prevent erosion of soil on the site and adjacent properties that might result from construction activities; prevention measures shall include controlling runoff, trapping sediment and minimizing area and duration of erodable soils.
- B. Provide temporary materials such as silt fencing, hay bales, sand bags, plastic sheets, chain link fencing fabric, riprap or culverts to prevent the erosion of banks or excavation where runoff may be increased or concentrated due to construction activities.
- C. Preserve natural vegetation to greatest extent practical throughout project and when locating storage areas and performing all work.

1.05 DRAINAGE

- A. Contractor shall provide for the drainage of storm water and such water as may be applied or discharged on site in performance of work.
- B. Drainage provisions will be adequate to prevent damage to the work and adjacent properties.
- C. Existing drainage channels and conduits shall be cleaned, enlarged or supplemented as necessary to carry all increased runoff from Contractors operations.
- D. The Contractor shall route surface drainage around the excavation for the concrete box culvert.

1.06 HAUL ROUTES

The Contractor shall coordinate haul routes with the Owner and Engineer. The equipment and associated loads utilizing these routes shall be in accordance with applicable City, County, and State regulations. The Contractor shall coordinate (and obtain all required permits) for crossings at canals, wetland areas, and over any existing utilities on site.

1.07 TEMPORARY FENCING

The Contractor shall install "T-bar" fence posts at 50' intervals with a rope attached to the top of each post, or orange construction fencing, along the outermost boundary of all temporary construction easements.

1.08 TRAFFIC CONTROL

The Contractor shall coordinate with the Town of Frederick for any road closures. A traffic control plan shall be submitted by the Contractor to the Town Engineer and should be in accordance with CDOT standard S-630-1 and be submitted to the Engineer.

PART 2 - NOT USED

PART 3 - NOT USED

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01503 - PRESERVATION, RESTORATION, AND CLEAN-UP

PART 1 - GENERAL

1.01 SITE RESTORATION AND CLEAN-UP

At all times during the work, keep the premises clean and orderly, and upon completion of the work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences regardless of whether these are on private property, or on Town, State, or County rights-of-way. Remove all excavated materials from grassed and planted areas, and leave these surfaces in a condition equivalent to their original condition.

Upon completion of the double box culvert and backfilling operations, hand-rake and drag all former grassed and planted areas, leaving all disturbed areas free from rocks, gravel, clay or any other foreign material. The finished surface shall be free-draining and free from holes, ruts, rough spots, or other surface features detrimental to a seeded area.

Any damage to existing roadways caused by the construction operations will be repaired by the Contractor at his expense.

1.02 TREE REMOVAL

No trees, except those specifically shown on the Drawings to be removed, shall be removed without the express acceptance of the Owner's Representative.

1.03 FINISHING OF SITE, BORROW, AND STORAGE AREAS

Upon completion of the project, all areas used by the Contractor shall be properly cleared of all temporary structures, rubbish, and waste materials and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

1.04 REMOVAL OF ROCK FROM FINISHED SURFACES

Remove and dispose of all loose rock and boulders larger than 2-inch diameter occurring on the finished surfaces as a result of the construction operations.

1.05 STREET CLEAN-UP DURING CONSTRUCTION

Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads at the conclusion of each day's operation.

1.06 DUST PREVENTION

Give all unpaved streets, roads, detours, or haul roads used in the construction area an approved dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations for dust prevention shall be strictly followed.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01510 - TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

PART 1 - WATER

1.01 TEMPORARY WATER

The Contractor shall coordinate a place of connection for temporary water with the applicable water authority. The Contractor shall provide all temporary piping required to bring the water to the point of use and remove it when no longer needed. The Contractor shall obtain water only from a metered source. The Contractor will pay for all temporary water through a bulk water permit.

PART 2 - TEMPORARY ELECTRIC POWER

2.01 GENERAL

The Contractor shall determine the type and amount of electric service available and make arrangements for obtaining a separate electric power service and pay all costs for the electric power used during the contract period, except as specifically provided for utilities used by the Owner on portions of the work designated in writing by the Engineer as "Substantially Complete".

2.02 SAFETY REQUIREMENTS FOR TEMPORARY ELECTRIC POWER

Temporary electric power installation shall meet the construction safety requirements of OSHA, State and other governing agencies.

2.03 OWNER WILL PAY UTILITY COSTS AFTER START-UP

Upon acceptance of the work, or a defined portion of the work, and the Owner commences full-time successful operation of the facility or portion thereof, the Owner will pay the cost for utilities used for the Owner's operation. The Contractor shall continue to pay for utilities used until final acceptance of the work, except as provided herein.

PART 3 - SANITARY FACILITIES

3.01 GENERAL

The Contractor shall provide sanitary facilities for his employees and his subcontractors' employees and maintain the facility in a sanitary condition at all times. The facility shall conform to code requirements and be acceptable to the sanitary authorities. Upon completion of the work, the sanitary facility shall be removed and the area restored to its original condition.

PART 4 - PRODUCT DELIVERY, STORAGE AND HANDLING

4.01 PRODUCT DELIVERY

Schedule delivery of products or equipment as required to allow timely installation and to avoid excessive on-site storage. Delivery of products or equipment to be in manufacturers original unbroken cartons or other containers, clearly and fully marked and identified as to manufacturer, item, location where to install, and instructions for assembly, use and storage.

The Contractor shall inspect all products or equipment delivered to the site prior to their unloading and shall reject all products or equipment that are damaged, used, or in any other way unsatisfactory for use on project.

4.02 STORAGE AND HANDLING

Store products or equipment off ground and protected from weather. Provide additional protection as required by manufacturer until the time that the item is to be installed. While storing, take care to avoid creating a humidity chamber by venting area.

Store products or equipment in a location that avoids physical damage to items while in storage, and facilitates prompt inspection.

Handle products or equipment in accord with manufacturer's recommendations and instructions.

Delicate instruments and materials subject to vandalism shall be placed under locked cover, and if necessary, provided with temperature control as recommended by manufacturer.

All hazardous and/or toxic materials shall be stored in conformance with Federal, State and local regulations.

PART 5 - ACCESS

5.01 GENERAL

The project construction entrance shall be approved by the Owner's Representative prior to construction. The Contractor is responsible for acquiring all permits and temporary easements for accessing the site from any public or private roads.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01600 - MATERIAL AND EQUIPMENT

1.01 GENERAL

Where possible, the Contractor shall provide the entire required quantities of each product from a single source.

1.02 SPECIFIC MATERIALS AND "ACCEPTED SUBSTITUTES"

The Bidder may substitute and include in his bid price a material or product other than those specified by name or brand, provided that requests are submitted and accepted in writing by the Engineer prior to the bid.

1.03 PROPRIETARY PRODUCTS

Specifying of proprietary products is not meant to exclude competition, but is intended to set a minimum standard. The words "or accepted substitute" and "or approved equal" are implied after any proprietary name. Substitutions will be considered according to specified substitution procedures.

1.04 PRODUCTS LIST

A list of all products to be incorporated in the work, with specific manufacturer's name and reference number, is to be furnished to the Engineer within ten (10) days after the Notice of Award.

END OF SECTION

DIVISION 1 - GENERAL REQUIREMENTS

SECTION 01700 - CONTRACT CLOSEOUT

1.01 CLOSEOUT PROCEDURES

The following project closeout procedure defines the responsibilities of the Contractor, Owner, and Owner's Representative in closing the project:

Step 1: Contractor advises the Owner's Representative in writing that he has reached "Substantial Completion" and provides a list of items to be completed or corrected.

Closeout may be conducted by areas or portions of the work if requested by the Owner.

Step 2: Owner's Representative inspects the work to determine if it is substantially complete, and issues a Certificate of Substantial Completion plus a "Punch List" of items to be completed or corrected.

Step 3: Contractor completes and/or corrects all punch list items and notifies the Engineer in writing that his work is ready for final inspection. At this time, a final application for payment is submitted.

Step 4: Owner's Representative makes final inspection. When the work is found to be acceptable under the Contract Documents, and the Contract fully performed, the Owner's Representative will issue a final Certificate for Payment.

1.02 FINAL PAPERWORK

Prior to release of final payment, the Contractor shall deliver the following items to the Owner's Representative:

- Maintenance Manuals and Parts Lists, as specified.
- All Guarantees, Warranties and Submittals, as specified.
- Receipts for Extra Materials Delivered to the Owner.
- Miscellaneous Keys, Switches, etc.
- Final Application for Payment.
- Consent of Surety to Final Payment.
- Contractor's Affidavit of Release of Liens.
- Project Record Documents.
- Red-lined as-built drawings.

END OF SECTION

APPENDICIES

APPENDIX A: JOINT SEALANT & CHIP SEAL STANDARDS/SPECIFICATIONS

APPENDIX B: LIST OF SEGMENTS TO BE REPAIRED AND MAP OF LOCATIONS

APPENDIX A:

JOINT SEALANT & CHIP SEAL STANDARDS/SPECIFICATIONS

SECTION 408 JOINT AND CRACK SEALANT

DESCRIPTION

408.01 This work consists of furnishing and placing an approved hot poured joint and crack sealant in properly prepared cracks in asphalt pavements. Cracks with a width greater than $\frac{1}{8}$ inch and less than 1 inch are to be filled with this material.

MATERIALS

408.02 Materials for hot poured joint and crack sealant shall meet the requirements of subsection 702.06.

Using a mixture of different manufacturers' brands or different types of sealant is prohibited.

CONSTRUCTION REQUIREMENTS

408.03 Immediately before applying hot poured joint and crack sealant, the cracks shall be cleaned of loose and foreign matter to a depth approximately twice the crack width. Cleaning shall be performed using a hot compressed air lance. This lance shall be used to dry and warm the adjacent asphalt immediately prior to sealing. Direct flame dryers shall not be used.

These Cracks shall be filled with hot poured joint and crack sealant flush with the pavement surface. Immediately following the filling of the crack, excess sealant shall be leveled off at the wearing surface by squeegee, a shoe attached to the applicator wand, or other suitable means approved by the Engineer. The squeegeed material shall be centered on the cracks and shall not exceed 3 inches in width or $\frac{1}{16}$ inch in depth.

The sealant material shall be heated and applied according to the manufacturer's recommendations. The equipment for heating the material shall be an indirect heating type double boiler using oil or other heat transfer medium and shall be capable of constant agitation. The heating equipment shall be capable of controlling the sealant material temperature within the manufacturer's recommended temperature range and shall be equipped with a calibrated thermometer capable of ± 5 °F accuracy from 200 to 600 °F. This thermometer shall be located so the Engineer can safely check the temperature of the sealant material. Overheating of the sealant material will not be permitted.

The face of the crack shall be surface dry and the air and pavement temperatures shall both be at least 40 °F and rising at the time of sealant application.

Sealant material picked up or pulled out after being placed shall be replaced at the Contractor's expense. The Contractor shall have blotter material available on the project in the event it is required to prevent tracking or pulling. If required, blotter material shall be approved by the Engineer and placed at the Contractor's expense.

METHOD OF MEASUREMENT

408.04 Hot poured joint and crack sealant will be measured by the ton of material used. The Engineer may require the weighing of equipment for determination of actual quantities of material used.

BASIS OF PAYMENT

408.05 The accepted quantities will be paid for at the contract unit price per ton.

Payment will be made under:

Pay Item	Pay Unit
Hot Poured Joint and Crack Sealant	Ton

All materials, equipment, and costs incidental to the preparation of the surface prior to application of the hot poured joint and crack sealant will not be paid for separately, but shall be included in the work.

702.06 Hot Poured Joint and Crack Sealant. Hot poured material for filling joints and cracks shall conform to the requirements of ASTM D 6690, Type I or II. ASTM D 1985 mortar blocks shall be used for concrete bond test. ASTM D 6690 material must pass asphalt compatibility test, Section 9, ASTM D 5329.

Sealant material shall be supplied preblended, prereacted, and prepackaged. If supplied in solid form the sealant material shall be cast in a plastic or other dissolvable liner having the capability of becoming part of the crack sealing liquid. The sealant shall be delivered in the manufacturer's original sealed container. Each container shall be legibly marked with the manufacturer's name, the trade name of the sealer, the manufacturer's batch or lot number, the application temperature range, the recommended application temperature, and the safe heating temperature.

The sealant shall be pretested by the Department prior to use and subsequently placed on the Colorado Approved Products List.

CHIP SEAL SPECIFICATION

DESCRIPTION

The Contractor shall furnish all labor, equipment, material, supplies, environmental protection, no parks, raised markers, signage, traffic control, secondary sweeping, and other incidentals necessary to provide an application of polymerized emulsified asphalt, cover coat aggregate and a Fog Seal to an existing roadway surface.

MATERIALS

Latex Modified Emulsion: Latex Modified Cationic Rapid Set emulsion (CRS-2R) shall be an emulsified blend of asphalt, water, emulsifiers, and latex polymer. The emulsion shall contain a minimum of three percent (3.0%) styrene-butadiene latex rubber (SBR) solids by weight of asphalt cement. The SBR polymer dispersion shall be co-milled during the emulsification process such that a bicontinuous polymer-asphalt network is formed upon curing of the finished emulsion. The emulsion shall be pumpable and suitable for application through a distributor truck. The emulsified asphalt shall conform to the following requirements:

Tests on CRS-2R Emulsion	Minimum	Maximum	Test Method
Viscosity, Saybolt Furol, 50 C, sec, (a)	50	450	ASTM D 244
Storage Stability Test, 24-h, % (a)		1.0	ASTM D 6930
Demulsibility, 35 ml, 0.8% Dioctyl Sodium Sulfosuccinate, %	40		ASTM D 6936
Particle Charge Test	Positive		ASTM D 244
Sieve Test, % (a)		0.1	ASTM D 6933
Distillation: (b)			AASHTO T 59
Oil Distillate, by Volume of Emulsion, %		3.0	AASHTO T 59
Residue, %	65		AASHTO T 59
Tests on Residue (b)			
Penetration, 25 °C, 100g , 5s, dmm	70	150	ASTM D 5
Ductility, 4 °C, 5 cm/min, cm	40		ASTM D 113
Solubility in Trichloroethylene, % (c)	97.5		ASTM D 2042
Toughness, in-lb	90		ASTM D 5801
Tenacity, in-lb	60		ASTM D 5801

The specification for CRS-2R is in accordance with the material properties and test methods as specified by ASTM, AASHTO, and CDOT.

- (a) This test requirement on representative samples is waived if successful application of the material has been achieved in the field.
- (b) Residue by evaporation is intended to provide rapid determination of the percent residue and to provide material for tests on residue. If the percent residue or any test on the residue fails to meet specifications, the tests will be repeated using the distillation test specified by AASHTO T59. For polymer modified emulsions, the distillation and evaporation tests will be modified to include 400F maximum temperature to be held for 15 minutes.

- (c) If the solubility of the residue is less than 97.5%, the base asphalt binder for the emulsion shall be tested. The solubility of the base asphalt binder shall be greater than 99 percent.

Polymer Pre-Modified Base Emulsion: Polymer Modified Cationic Rapid Set emulsion (CRS-2P) shall be an emulsified blend of polymer modified asphalt, water, and emulsifiers. The emulsion shall contain a minimum of three percent (3.0%) styrene-butadiene (SB) or styrene-butadiene-styrene (SBS) polymer by weight of asphalt cement. The asphalt cement shall be polymer modified prior to emulsification using a block SB or SBS co-polymer. The emulsion standing undisturbed for a minimum of 24 hours shall show no white, milky separation but shall be smooth and homogeneous throughout. The emulsion shall be pumpable and suitable for application through a distributor.

Tests on CRS-2P Emulsion	Minimum	Maximum	Test Method
Viscosity, Saybolt Furol, 50°C, sec, (a)	50	450	ASTM D 244
Storage Stability, 24-hr, % (a)		1.0	ASTM D 6930
Demulsibility, 35 ml, 0.8% Dioctyl Sodium Sulfosuccinate, %	40		ASTM D 6936
Particle Charge	Positive		ASTM D 244
Sieve, % (a)		0.1	ASTM D 6933
Distillation: (b)			AASHTO T 59
Oil Distillate by Volume of Emulsion, %		3.0	AASHTO T 59
Residue, %	65		AASHTO T 59
Tests on Residue (b)			
Penetration, 25 °C, 100g, 5s, dmm	70	150	ASTM D 5
Solubility in Trichloroethylene, % (c)	97.5		ASTM D 2042
Toughness, in-lb	70		ASTM D 5801
Tenacity, in-lb	45		ASTM D 5801

The specification for CRS-2P is in accordance with the material properties and test methods as specified by ASTM, AASHTO, and CDOT.

- (a) This test requirement on representative samples is waived if successful application of the material has been achieved in the field.
- (b) Residue by evaporation is intended to provide rapid determination of the percent residue and to provide material for tests on residue. If the percent residue or any test on the residue fails to meet specifications, the tests will be repeated using the distillation test specified by AASHTO T 59. For polymer modified emulsions, the distillation and evaporation tests will be modified to include 400F maximum temperature to be held for 15 minutes.
- (c) If the solubility of the residue is less than 97.5%, the base asphalt binder for the emulsion shall be tested. The solubility of the base asphalt binder shall be greater than 99 percent.

Cover Coat Material: The chip or cover coat aggregate shall be washed, hard, durable, clean rock and free from coatings or deleterious material. All of the aggregate shall be crushed gray granite

with 100% fractured faces. The aggregate shall have maximum loss of 20% when tested with the LA Abrasion procedure as defined by AASHTO T96.

The maximum amount of flat and elongated aggregate with a ratio of 3:1 shall not exceed 12% as determined by ASTM D4791. Only one source of aggregate shall be used and shall conform to the following gradations.

Gradation Table - Cover Coat Aggregate (percent passing)

Sieve Size	1/2" Chip	3/8" Chip	1/4" Chip
1/2"	95-100	100	100
3/8"	0-60	95-100	100
1/4"	0-10	0-35	95-100
No. 8	0-3	0-3	0-3
No. 200	0-1.5	0-1.5	0-1.5

CONSTRUCTION REQUIREMENTS

Equipment: The size and condition of all equipment shall be approved prior to construction. Should equipment be unsatisfactory for whatever cause, the Contractor shall remove and replace the equipment without delay or cost. The equipment shall conform to the following minimum requirements.

Bituminous Distributor: A minimum of two like distributors shall be used on this project. The distributors shall be self-powered and capable of providing a uniform application rate of emulsion varying from .05-1.00 gallons per square yard over a variable width up to twenty feet in a single pass. The uniformity of the distributors shall not vary by more the two-hundredths gallons per square yard. The distributors shall be equipped with a variable power unit for the pump and full circulation spray bars, which are adjustable laterally and vertically. The nozzle angle and bar height shall be set to provide one hundred percent of double coverage in a single pass. Where multiple passes will be required to complete the full width, the four inches adjacent to the second pass may be left with fifty percent coverage so that the next pass will complete the full application rate specified. Distributors shall be self-powered and include a computerized application controls, a tachometer, pressure gauges, accurate volume devices, calibrated tank, and a thermometer for measuring temperatures of the emulsion in the tank.

Aggregate Spreader: The aggregate spreader shall be self-propelled and supported by at least four tires on two axles capable of providing a uniform application rate of aggregate from five to fifty pounds per square yard over a variable width up to 20 feet in a single pass. The uniformity of this machine shall not vary by more than one pound per square yard. The aggregate spreader shall be equipped with the means of applying the cover coat material to the surface with computerized application controls so that the required amount of material will be deposited uniformly over the full width of the bituminous material. A computer rate controlled aggregate spreader shall be required.

Rollers: A minimum of two self-propelled pneumatic tired rollers shall be used on the project unless

otherwise requested by the Project Manager. The rubber tired rollers shall have a gross load adjustable to apply 200 – 250 pounds per inch of rolling width. Tire pressure shall be specified for the pneumatic tire rollers and shall not vary more than plus or minus 5.0 psi. Depending on the speed of the Chip Seal operation and the width of coverage, additional rollers may be required. At no time shall the rollers travel more than 10 miles per hour.

Sweepers: A minimum of two vacuum designed sweepers having only negative air pressure at the road surface capable of removing excess aggregate and debris material shall be used on this project. The body hoppers of the vacuum sweepers shall be a minimum capacity of ten cubic yards, and the negative air pressure at the intake shall be rated at 46 inches of negative water pressure. Sweepers shall meet applicable U.S. Environmental Protection Agency Standards. No mechanical pick-up brooms will be allowed on the project. Any areas adjacent to the project where a vacuum broom cannot access, shall be removed by the use of a blow pack. No mechanical pick-up brooms will be allowed on the project.

MATERIAL APPLICATION RATES

Material	1/2" Chip Seal	3/8" Chip Seal	1/4" Chip Seal
CRS-2P Chip Seal	.38-.46 Gal/SY	.34-.40 Gal/SY	.28-.34 Gal/SY
Fog Seal	.12 Gal/SY Minimum	.11 Gal/SY Minimum	.08 Gal/SY Minimum
Cover Coat Aggregate	25 lbs/SY Minimum	23 lbs/SY Minimum	20 lbs/SY Minimum

The specific emulsion and cover aggregate application rate shall be determined using factors such as surface temperature, traffic volume, existing road condition and time of year. The Contractor may alter the application rate at any time during the course of the construction upon approval by the Project Manager.

Manholes, Valve Boxes and Existing Thermo Markings: Manholes, valve boxes and thermo markings shall be covered with an approved material during the operation and shall be removed immediately after the street has been Chip Sealed and Fog Sealed. The Contractor is responsible for locating all exposed manholes, valve boxes and thermo markings prior to Chip Sealing.

Weather Limitations: The Chip Seal shall not be applied when the pavement is moist, or when the weather is or may be detrimental. Detrimental weather is defined as rain showers, cool temperatures, moist pavements, threat of rain showers, or other environmental factors which could affect the performance of the Chip Seal construction. No Chip Seal shall be applied if either the pavement or air temperature is below 55°F (10°C) and falling, but may be applied when both pavement and air temperatures are above 50°F (7°C) and rising.

EXECUTION OF THE WORK

Surface Preparation: The Contractor shall be responsible for all measures required providing a thoroughly clean and dry pavement surface including vegetation removal and sweeping prior to the Chip Seal application. The Contractor shall observe the condition of the pavement prior to bidding to determine the work necessary to provide a clean, dry pavement for construction and shall include

the work necessary in the bid.

Application of Bituminous Materials: The application of the emulsion shall be performed by means of a pressure distributor in a manner to achieve a uniform and continuous spread over the asphalt surface. The temperature of the emulsion shall be a minimum of 160° F.

The quantity of emulsion per square yard shall be as specified herein and agreed upon with the Project Manager. The distributor shall be moving forward at the proper application speed at the time the spray bar is opened. If at any time a nozzle becomes clogged or not spraying a proper pattern, the operation shall be immediately halted until repairs are made. Repairs shall be made immediately after deficiencies are noted and prior to the aggregate placement at all times during construction. The width of the emulsion application shall be no greater than the width of the aggregate spreader except where additional passes are required then the emulsion shall be four inches beyond the aggregate spread at a fifty percent application rate. At no time shall the emulsion be allowed to break, chill, set, harden, or otherwise impair the aggregate retention before the aggregate has been properly applied and rolled.

Application of Cover Coat Aggregate: The aggregate shall be applied immediately following the emulsion application by the approved aggregate spreader. The quantity of cover coat aggregate per square yard shall be specified herein and agreed upon with the Project Manager. The Contractor, prior to start of work, shall calibrate the aggregate spreader to achieve the design application rate of the cover coat aggregate. Spreading shall be accomplished in such a manner that the tires of the trucks and aggregate spreader never contact the newly applied bituminous material. The width of the aggregate spreader shall be equal to the width of the emulsion spread, except where additional passes are required. Areas, which are deficient in aggregate, shall be covered immediately with additional material.

Rolling: Initial rolling shall begin immediately after the application of cover coat aggregate. Rollers shall work in tandem and complete a minimum of three passes with a sufficient overlap. Should the rolling operation be delayed, the aggregate and emulsion spreading shall be halted until the operation regains proper sequencing and timing. The maximum speed of the rolling operations shall be 10 miles per hour.

Sweeping and Fog Seal: Within 24 hours of curing, excess aggregate shall be swept from the roadway and adjacent areas. Excess aggregate that is clean may be stockpiled and re-used in subsequent locations at the discretion of the Project Manager. 48 hours after the initial sweeping an application of Fog Seal shall be applied to all areas chip sealed. The polymer modified Fog Seal or approved equal emulsion shall be diluted 40 percent with water. The application rate shall vary between 0.08 and 0.12 gallons per square yard as deemed necessary by the Contractor and Project Manager.

Traffic Control: A traffic control plan approved by Project Manager will be required before any work commences. Temporary raised pavement markers will be installed as needed, at a minimum of 40' spacing. The cost of signage, markers and traffic control necessary to complete this project shall be included in the unit price of the Chip Seal.

Public Notification: The Contractor shall distribute an approved information flyer to all residents adjacent to the project no more than two weeks prior to the anticipated start of construction. A local telephone number will be located on the flyer and manned 24/7 until the contract is completed. No parks are to be provided by the contractor 24 – 48 hours prior to the commencement of the work. The cost of public notification shall be included in the unit price of the Chip Seal.

Method of Measurement & Payment: The Chip Seal shall be measured and paid for by the square yard sealed and accepted by the owner. Payment shall be full compensation for the Chip Seal work completed in accordance with the above specifications.

APPENDIX B:

LIST OF SEGMENTS TO BE REPAIRED AND MAP OF LOCATIONS

Location Narrative:

This is an explanation of the mapping of locations.

Patching and Mastic Sealing has been described in (but are not limited to) the attached maps of subdivisions/areas:

- 1.) Countryside subdivision (total Patching ~2235SY)
- 2.) Savannah subdivision (total Patching ~552SY)
- 3.) Downtown/Carriage Hills area (total Patching ~550SY)
- 4.) Wildflower Subdivision (total Patching ~225SY)
- 5.) Rinn Valley Subdivision (total Patching ~698SY)
- 6.) Eagle Valley Subdivision (total Patching ~995SY)

Quantities have been accounted for patching areas. Typical patching for this contract is 4' wide by road width. Any additional areas of work will be determined by the engineer as needed.

Mastic sealing in these subdivisions is typical for longitudinal cracks between the curb line and the street.

Chip sealing will occur (but are not limited to) in the following subdivisions/areas:

- 1.) Savannah subdivision
- 2.) Wildflower Subdivision
- 3.) Eagle Valley Subdivision

Areas to be milled include (but are not limited to) the following:

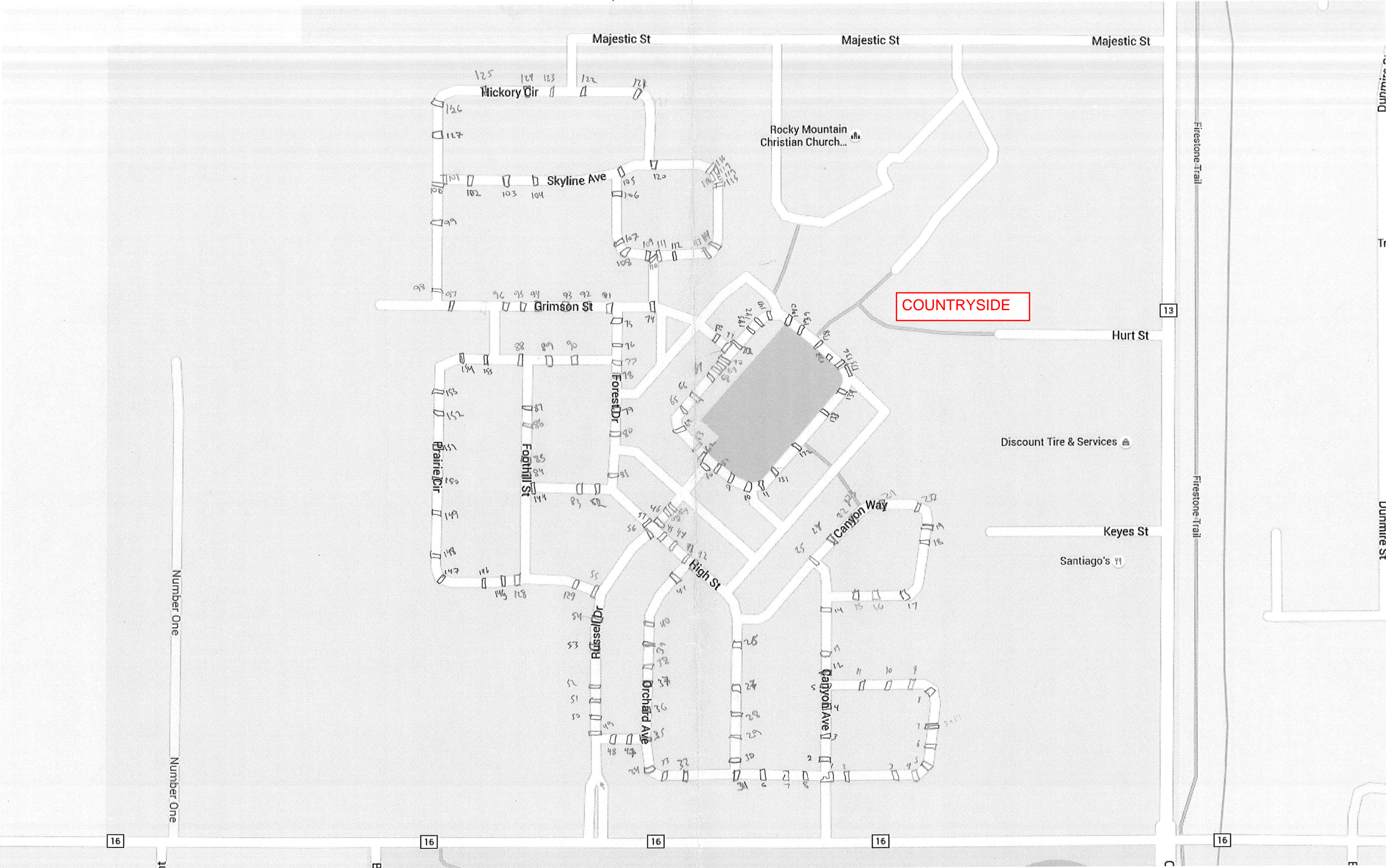
- 4.) Downtown (5th street from Oak St. to Locust St.)
- 5.) Countryside subdivision
- 6.) Savannah subdivision
- 7.) Wildflower Subdivision
- 8.) Rinn Valley Subdivision
- 9.) Eagle Valley Subdivision

Subdivision areas to be milled will typically be smaller in nature. (~25-35 SY)

Striping will match existing for areas milled or patched. The majority of striping will occur along arterial roadway. Specific areas to be striped include (but are not limited to):

- 1.) Silver Blvd from HWY 52 to Bella Rosa
- 2.) Ridgeway Blvd from HWY 52 to Tipple Parkway

Chip Seal Locations					
Savannah					
Street Name	From Address	To Address	Length	Width	Area (SY)
CLAYTON CIR	COLUMBINE AV	CLAYTON ST	892	24	2378.7
CLAYTON ST	CLAYTON CIR	COLUMBINE AV	617	24	1645.3
CLAYTON ST	MCKISSIC AV	CLAYTON CIR	220	24	586.7
COLUMBINE AV	CLAYTON CIR	CLAYTON ST	288	24	768.0
COLUMBINE AV	CLAYTON ST	TAYLOR ST	295	24	786.7
LAUGHLIN BLVD	GORHAM ST	CR 15	461	24	1229.3
LILEY AV	RALSTON ST	BAUM ST	331	24	882.7
		Total			8277.3
Wildflower					
Street Name	From Address	To Address	Length	Width	Area (SY)
BUTTERCUP DR	CR 7	BUTTERCUP CIR	324	36	1296.0
N BUTTERCUP CIR	BUTTERCUP DR	S WILDFLOWER CIR	973	30	3243.3
S BUTTERCUP CIR	BUTTERCUP DR	N WILDFLOWER CIR	1167	30	3890.0
WILDFLOWER CIR	BUTTERCUP CIR	END	152	30	506.7
WILDFLOWER CIR	BUTTERCUP CIR	BUTTERCUP CIR	516	30	1720.0
WILDFLOWER CIR	END	BUTTERCUP CIR	199	24	530.7
		Total			11186.7
Eagle Valley					
Street Name	From Address	To Address	Length	Width	Area (SY)
BARN OWL DR	FALCON DR	EAGLE BLVD	685	24	1826.7
EAGLE BLVD	FALCON DR	KINGBIRD DR	329	36	1316.0
FALCON DR	BARN OWL DR	BARN OWL DR	1016	30	3386.7
KINGBIRD DR	OSPREY CIR	END	980	30	3266.7
KINGBIRD DR	QUAIL CT	END	226	24	602.7
OSPREY CIR	EAGLE BLVD	KINGBIRD DR	822	30	2740.0
OSPREY CIR	KINGBIRD DR	EAGLE BLVD	824	30	2746.7
QUAIL CT	KINGBIRD DR	END	538	24	1434.7
		Total			17320.0
Grand Total					36784.0









Map data ©2016 Google 500 ft

